POLITECNICO DI MILANO

FACOLTÁ DI ARCHITETTURA E SOCIETÁ

CORSO DI LAUREA
CONCENTRATION LANDSCAPE ARCHITECTURE (AEI)

SCENARI FUTURI PER L'AREA EXPO DI HANNOVER

RELATORE: Stefano Boeri

CORRELATORE: Salvatore Porcaro

LAUREANDO: Eleonora L. M. Rizzi - matricola 721455

A. A. 2009 - 2010

INDEX

REPORT

IMAGES

TABS AND DIAGRAMS

ABSTRACT

Quale eredità lascia un'Esposizione Universale, evento dalla portata internazionale e dal forte impatto nei processi di trasformazione urbana di una città? L'Expo proprio per la sua natura di evento internazionale ha sempre richiesto l'uso di aree urbane piuttosto estese se confrontate ciascuna con la superficie della città ospitante. In particolare a partire da Siviglia '92 le aree Expo sono sempre state scelte come occasione di riqualificazione di estese parti di città; tuttavia questo tentativo si è rivelato fallimentare nel tempo: questo perché l'Expo, nonostante la sua portata globale e una lunga fase di progettazione, è un evento temporaneo concentrato in pochi mesi di svolgimento. Il risultato di riqualificazione o espansione di una parte di città attraverso la costruzione di avveniristici padiglioni destinati ad ospitare i vari Paesi del mondo ha generato spazi urbani privi di una loro identità, difficilmente gestibili, se non addirittura dimenticati, dalle amministrazioni locali, trasformando così estese aree urbane in luna-park dell'architettura abbandonati e dalla presenza ingombrante.

Anche il destino del dopo Expo di Hannover ha presentato un esito negativo in merito al tentativo di riqualificazione ed espansione di un'area di carattere commerciale. Il recinto Expo ha progressivamente perso la sua funzione divenendo un luogo privo di una propria identità. Alcuni padiglioni sono stati dismessi lasciando ampi lotti inutilizzati; altri padiglioni sono stati abbandonati per gli elevati costi di dismissione divenendo, in un arco temporale di quasi 11 anni, delle architetture fantasma, in progressiva fase di decadenza. Quale futuro per un'area così estesa e dimenticata? La risposta sembra essere presente nel luogo stesso: i vuoti urbani generati nel tempo, vengono occupati da un paesaggio che diviene l'infrastruttura principale per la riqualificazione di queste aree. I padiglioni abbandonati sono ripensati per una strategia di riutilizzo temporaneo, le aree vuote in stretto rapporto con essi danno luogo ad un parco tematico; le aree inutilizzate circostanti destinate a parcheggi a raso vengono riforestate integrandosi nello scenario della cintura verde di Hannover.
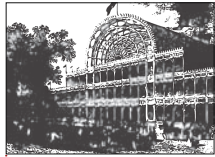
1851 - LONDON - CHRYSTAL PALACE

1889 - PARIS - EIFFEL TOWER

1906 - MILAN - FAIR HEADQUARTERS
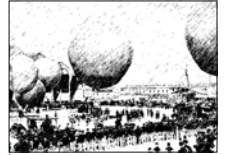
1929 - BARCELONA - GERMAN PAVILION
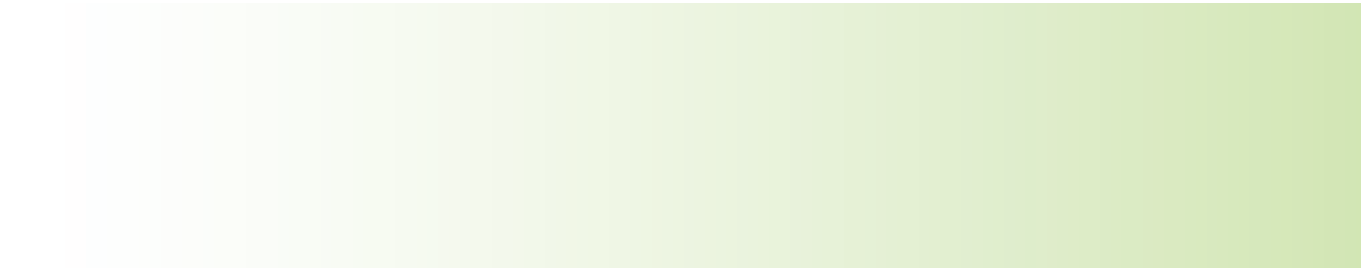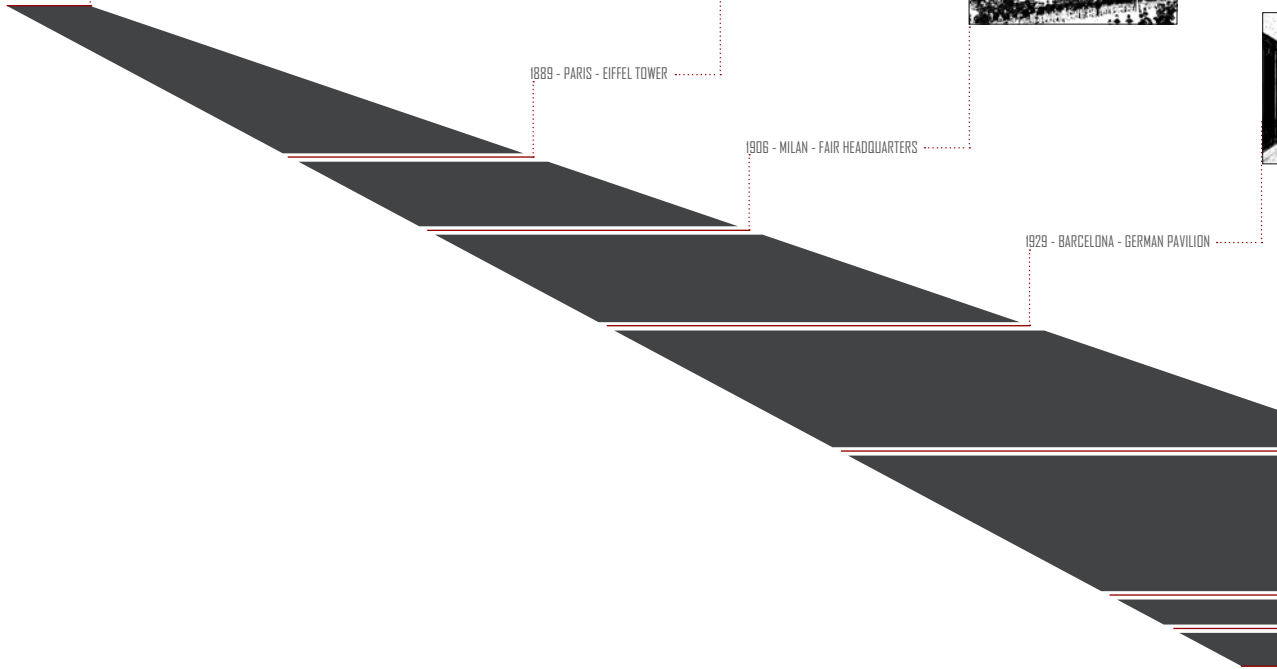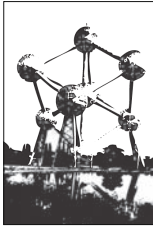
1958 - BRUXELLES - ATOMIUM ··········

1992 - SEVILLE - ALAMILLO BRIDGE ··········

2000 - HANNOVER - DUTCH PAVILION ··········

2010 - SHANGAI

EXPO CHRONOLOGY

Seat: *Hyde Park, Crystal Palace* - **Designer:** *Joseph Paxton* - **Area:** *10 ha* - **Participating countries:** *25* - **Visitors:** *6.039.195* - **Costs:** **$** *1.678.710*

The Great Exhibition at London in 1851, organized by Cole together with the patronage by Prince Albert, can be considered the first Universal Exposition in a modern sense of the word, as a resulting of numerous previous national expositions. The International feature of the Great Exhibition is due to the off limits policy in international trading by England (the unique nation at that time to apply a liberal trade). Joseph Paxton, a gardener who used to build greenhouses, won the international competition for the building of the pavilion and the structure was built in nine months. The pavilion, known as Crystal Palace, represented the new paradigm of the modern architecture: the traditional façades are substituted from some structural parts which substain the building, while the glass façade loses a structural-static function.

Seat: *Champ Elysées, Palais de l'Industrie* - **Designers:** *J.M.V. VIel, Alexis Barrault* - **Area:** *15,2 ha* - **Participating countries:** *25* - **Visitors:** *5.162.330* - **Costs:** **$** *2.267.304*

Since the French Industry wasn't at the same level of the English one, for the exposition pavilion consisted in a big building surrounded by a wall facing, using an iron structure only for the roof. The external architectural project of the Palais de l'Industrie was designed by J.M.V. Viel, while the roof is by Alexis Barrault. Nevertheless in the inner space, 48 x 192 m wide, represented at that time the largest iron-covered space without intermediate supports, the external façade was traditional: the whole result is an hybrid architecture, since the new iron-glass system was still a technical demostration, seeking its own architectonical language. The building in the Champ Elysées was used for all the folliwing Expositions until the 1900, when it was demolished to build the Grand Palais.

Seat: *Royal Horticultural Society, South Kensington* - **Designers:** *Captain Francis Fowke, Charles Lucas, Thomas Lucas, Sir John Kelk* - **Area:** *9 ha* - **Particpating countries:** *39* - **Visitors:** *6.100.000* - **Costs:** **$** *2.294.210*

The exposition was sponsored by the Royal Society of Arts, Manufactures and Trade, and featured over 28,000 exhibitors from 36 countries, representing a wide range of industry, technology, and the arts. It was housed within a special building consisting of a main structure with two adjoining wings set at right angles for machinery and agricultural equipment; the wings were demolished after the Exhibition. Its main façade was 1152 feet (351 m) in length, and ornamented by two crystal domes, each of which was 260 feet (79 m) high. Exhibitions included such large pieces of machinery as analytical engine, cotton mills, and maritime engines as well as a range of smaller goods including fabrics, rugs, sculptures, furniture, plates, silver glass wares, and wallpaper.

Seat: *Champ de Mars, Galerie des Machines* - **Designer:** *J.B. Krantz* - **Area:** *68,7 ha* - **Participating countries:** *42* - **Visitors:** *15.000.000* - **Costs:** **$** *4.596.800*

The second parisian exposition was san important exhibition due to some showed improvements by the French Industry. The exposition was held in a temporary building, characterized by an oval shape with seven concentric galleries: the external one was called Galerie des Machines and it hosted machines. The other galleries hosted things such as raw materials for dressing, furniture, liberal arts, fine arts, work history and in the end there was a central garden where a pavilion hosted coins, and weight/measurement instruments. Each participating nation had a sector extended through out the seven galleries. This temporary architecture was criticized a lot by its contemporary visitors: it was considered an original object but also for this reason it represented a step forward in the iron construction field and in the searching of a new architectonical language.

Seat: *Prater* - **Designer:** *Scott Russel* - **Area:** *233 ha* - **Participating countries:** *35* - **Visitors:** *7.255.000* - **Costs:** **$** *9.561.635*

The Wien Exposition was organized following a more extended and articulate morphologycal system, by the english architect Scott Russell who paid a particular attention to the landscape: the Prater Park, in fact a very high quality place from a naturalistic and historical point of view. During this Expo a structure organized in different pavilions was defined, abandoning the original idea to have one unique pavilion divided in sectors. The main gallery, called *Palace of the Industry* and 290 m long, was along the east-west direction, and exactly in the middle it was divided by a building called *Round*. Twenty-eight galleries were opened perpendicularly to the main gallery and they follow parallel the Danubio direction among secular trees: these galleries hosted the participating countries. The huge *Hall of the Machines*, was placed parallel the *Palace of the Industry*.

1876 - Philadelphia (USA)
1st Centenary of American Independence

Seat: Fairmount Park - **Designer:** J. Schwarzmann - **Area:** 115 ha - **Participating countries:** 35 - **Visitors:** 10.000.000 - **Costs:** $ 8.000.000

The Exposition of industrial, trading and artistic american products in Philadelphia was held in occasion of the commemoration of the centenary for the American Independence in order to celebrate the econimcal, industrial and civil growth of the country after few years the Secession War. Far away from the urban limits, a group of pavilions was set, following the typology in Wien. There were two big buildings: the *Main Building* and the *Palace of the Machines* surrounded by the pavilions of Fine Arts, of the Agriculture and Orticolture. The minor pavilions and the inner equipments were characterized by an exasperated excess. The *Main Building was a big* parallelepid 573 x 141 m wide inspired to the Crystal Palace; the *Palace of the Machines* instead was built in wood and glass.

1878 - Paris (France)
Agriculture, Industry and Arts

Seat: Champ de Mars, station d'Orsay, esplanade des Invalides - **Designers:** Leopold Hardy, G.J.A. Davioud, J.D. Bourdais - **Area:** 75 ha - **Participating countries:** 36 - **Visitors:** 16.156.626 - **Costs:** $ 11.054.330

The Exposition was an occasion to renew the urban structure: a lot of roads and station were built. Two big pavilions were built: the former was a temporary building, le Galeries des Machines, in Champ de Mars, while the latter, called Palais Trocadero, was a permanent building set on the Senna River side, among the Chaillot hill. The Galeries des Machines was built with an iron structure, while the other had a wall structure and iron structure used only in the roof. Another innovation was the Rue des Nations, a road where there were the 27 pavilions of the hosted nations. The façades of these pavilions were inspired to the traditional architectonical style of each nation represented.
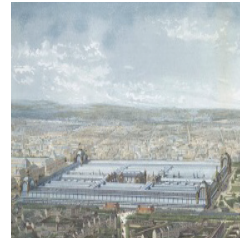
1880 - Melbourne (Australia)
Crafts, Manufacts and Products for agriculture and industry from all the Nations

Seat: Victorian Carlton Gardens - **Area:** 25 ha - **Participating countries:** 33 - **Visitors:** 1.330.000 - **Costs:** $ 1.600.000

The Melbourne International Exhibition was held from 1 October 1880 until 30 April 1881, visited by 1.5 million people. The population of Melbourne at the time was 280,000. The *Royal Exhibition Building*, set in the Victorian Carlton Gardens was completed in 1880 to host the exhibition, consisting of over 12.000 sqm of floorspace and temporary annexes. The foundation stone was laid by Victorian governor George Bowen. Some of the original building remains today and is a World Heritage site. The exhibition was modelled on the great exhibitions of Europe, with an aim to promote commerce and industry, along with art, science and education. They also served as a form of entertainment and tourism.

1888 - Barcelon (Spain)
Universal Exposition

Seat: Parc de la Ciutadella, Barcelon - **Designers:** Joseph Fontseré, Villaseca - **Area:** 46.5 ha - **Participating countries:** 30 - **Visitors:** 2.330.000 - **Costs:** $ 1.700.000

The exhibition took place on an area extended from the *Arc de Triomf* (built for the event as the exposition main entrance), the *Parc de la Ciutadella*, and a part of the current *Estració de França* until the current *Hospital del Mar in Barceloneta*. Joseph Fontseré renewed the *Parc de la Ciutadella*, with the contribute by Gaudì, Rossend Nobas and Venaci Vallmitjana. Some buildings of the existent militar village were used and set for the event like the chapel, the governor palace and the arsenal (the current Catalunia Parliament). A quarter of the parc was arranged with buildings designed by the most important architects of that period, since the exposition was an experimental event for the architecture by the Modern Movement: the most important building was the *Industry Palace*, designed by Jaume Gustà, 70.000 sqm wide. The most part of the pavilions are disappeared, except the *Arc de Triomf* by Josep Vilaseca and the *Castell dels Tres Dragons* by Lluís Domènech.

1889 - Paris (France)
1st Centenary of French Revolution

Seat: Champ de Mars, Chaillot hill, esplanade des Invalides - **Designers:** Formigé, Dutert, Eiffel - **Area:** 96 ha - **Participating countries:** 35 - **Visitors:** 32.250.297 - **Costs:** $ 8.300.000

The Exposition celebrated the centenary of the French Revolution and it is one of the most important among the expositions in the XIX century. The *Eiffel Tower*, 300 meters high, is the symbolic construction of this event, designed after a long study made on the iron pillars of the bridges. Its shape profile is calculated in order to resist to the wind force, and Eiffel studied also a way to give to the structure a pleasant aesthetic form. The presence of the Tower is felt almost by each neighbourhood of the city. Thank to the *Eiffel Tower* and also to the main pavilion, called Galerie, the iron constructions seem to have reached the highest technical and means point, becoming really a new architectonical language; this new language is able to carry out to different and specific functions also adpting to representative, communicational and symbolic architectural demands.
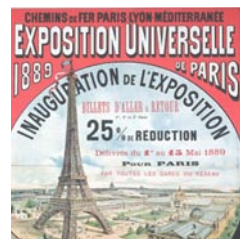
Seat: *Jackson Park, Chicago -* **Designers:** *Burnham, Root -* **Area:** *290 ha -* **Participating countries:** *19 -* **Visitors:** *27.500.00 -* **Costs:** *$ 27.245.567*

The Exposition celebrated the fourth centenary of the America discovery by Christophor Colombo. The chief in design Burnham invited the most important architects to collaborate to the design of the World's Fair. The architect Frederick L. Olmested designed the urban plan of the area: the Exposition resulted as a big "White City", due to the external colour of the pavilions, and it represented an example as the most accomplished urbanistic realization after the two urban-recovery cases in Paris and Wien. The most important buildings were around a big basin, 40 m long and 90 m wide. On the bigger sides of the basin instead there were the *Palace of the Agriculture* and the *Palace of the Machines* on southern part, while on the northern side there were the *Palace of the Manufacturing* and the *Palace of the Electricity*.

Seat: *Bruxelles -* **Area:** *132 ha -* **Participating countries:** *27 ha -* **Visitors:** *7.800.000*

The main venues of the fair were the Cinquantenaire Parks and a colonial section at Tervuren showcasing, King Leopold II of Belgium's personal property, the Congo Free State. The two exposition sites were linked by a purpose-built tramway. The Tervuren section was hosted in the *Palace of the Colonies* (although there was only one colony), designed by Belgian architect Aldophe. In the main hall Georges Hobé designed a distinctive wooden Art Nouveau structure evoking the forest, using Bilinga wood, an African tree. The interior exhibition displayed ethnographic objects, stuffed animals and in the "Hall of the Great Cultures" Congo's most important export products were displayed: coffee, cacao and tobacco. In the park, an example Congolese village was built, where 60 Africans lived through the period of the fair. The success of this exhibition led to the permanent establishment of the *Royal Museum for Central Africa* in 1898.

Seat: *Paris -* **Area:** *120 ha -* **Participating countries:** *58 -* **Visitors:** *58.860.801 -* **Costs:** *$ 18.746.186*

A number of Paris' most noted structures were built for the Exposition, including the Gare de Lyon, the Gare d'Orsay (now the Musée d'Orsay), the Pont Alexandre III, the Grand Palais, La Ruche, and the Petit Palais. The first line of the Paris Metro also began operation to coincide with the Exposition. Although completed in just 18 months, it was nevertheless slightly late, taking its first paying passengers to the *Ancien Palais du Trocadéro* site on July 1900. The *Salle des Machines* was later turned into an indoor cycling track, the Vélodrome d'hiver, which became infamous during *Vichy France*.
Part of the Exposition was the *Second Olympic Games*, which were spread over five months. The games also marked the first participation by female athletes and, in such sports as tennis, soccer, polo, rowing and tug of war, teams were multinational.

Seat: *Saint Louis -* **Designer:** *George Kessler -* **Area:** *500 ha -* **Participating countries:** *60 -* **Visitors:** *19.694.855 -* **Costs:** *$ 31.500.000*

In 1904 St. Louis hosted the world at a major international World's Fair. The Fair celebrated the centennial of the Louisiana Purchase (1803), one year late. It was delayed from a planned opening in 1903 to 1904 allow for full-scale participation by more states and foreign countries. The city of St. Louis had held an annual Saint Louis Exposition since the 1880s as agricultural, trade, and scientific exhibitions, but this event was not held in 1904, due to the World's Fair. The site, designed by George Kessler, was located at the present-day grounds of *Forest Park* and on the campus of *Washington University*, and was the largest fair until that time. There were over 1.500 buildings, connected by some 75 miles of roads and walkways. Exhibits were staged by 62 foreign nations, the United States government, and 43 of the then-45 U.S. states. These featured industries, cities, private organizations and corporations, theater troupes, and music schools.

Seat: *Liège -* **Area:** *70 ha -* **Participating countries:** *31 -* **Visitors:** *7.000.000 -* **Costs:** *$ 28.903.605*

The Expo seat covered 70 ha ground: 33 ha were to *Vennes*, 10 ha to *Parc de la Boverie*, 8 ha to *Fragnée* and 19 to *Cointe*. The halls of Industry and of Trade occupied 65.000 sqm; the *International Machines* hall occupied 30.000 sqm. The specialized pavilions were numerous and valorized the importance of the Old-Liège city.
In all 38 countries took part in the Exposition which together the belgian participation conted almost 16.000 exhibitors. The Expo in 1905 was also the opportunity to build and realize in Liège city some important projects: the construction of the *Fragnée Bridge*, the *Fétinne Bridge*, the *Vennes Bridge* and the *Mativa Bridge*; the recovery of the lower basin of Ourthe River; the construction of the main *Train Station* and new railway connections; the enlargement of the road *Pont d'Avront* and other new avenues.

Seat: *Royal Park, Piazza d'Armi* - **Designers:** *Sebastiano Locati, Aldo Corazza, Almerico da Schio* - **Area:** *100 ha* - **Participating countries:** *25* - **Visitors:** *10.000.000* - **Costs:** *$ 2.600.000*

The Exposition celebrated the construction of the Sempione railway tunnel, a new way that connected Italy with Europe, promoting the trading and cutural exchanges: so this event represented the chance of Italy to compare with other nations in the world. In Royal Park there were the sectors dedicated to Fine Arts, decorative arts and architecture; in Piazza d'Armi, which will be the definitive place in the future for the Fair of Milan, there were the pavilions dedicated to technical and industrial sujects such as the Work Gallery. Anyway one third of the pavilions was designed to be dismantled at the end of the exhibition. This division into two seats will sign the creation of two Institution: Fair of Milan and Triennale, which on the same places will held a lot of exhibitions until today.

Seat: *Bruxelles* - **Area:** *90 ha* - **Visitors:** *13.000.000* - **Costs:** *$ 3.550.000*

The organisers of the 1910 Exposition were anxious to find a larger site, but one which was within the city's boundaries. Finally, they opted for an area of uninhabited land located along the Cambre woods, the favoured walking area of the Bruxelles population. The Exposition was officially inaugurated by the young king Albert and it was placed from the current Avenue Franklin Roosevelt to the Ixelles Cemetery. Pavilions constructed in varied and imaginative architectural styles hosted over twenty countries as well as a number of specific themes (the Palace of Female Work, for example), and numerous private firms. There was also a range of attractions and cafés. In addition to the popular success of the event, the terrible fire of the night of the 14th–15th August destroyed a significant number of buildings: considerable material damage was caused the reconstruction of some pavilions. Above and beyond its popular success, the event played a crucial role in the expansion of the capital and the urban development of new districts.

Seat: *Gand* - **Area:** *130 ha* - **Participating countries:** *26* - **Visitors:** *9.503.419* - **Costs:** *$ 3.300.000*

The Expo was placed in Saint-Pierre neighbourhood, in the area between the railways and the old station, including also the park of the old city. Some urban changes were made in Gand in order to host the Exposition: the axial road, that starts from the High Street, together with the construction of another square in the city centre break gave to the old city a more contemporary taste. Most of the historical monuments, as the bell-tower, the Palace of Cloth, the façades along the Graslei and others buildings were restored. One of the most beautiful buildings was the Fine Arts Museum by Charles Van Rysselberghe. After the event the bourgeois class decided to set their palaces and houses on the same Expo grounds, creating a new and rich neighbourhood in the city.

Seat: *San Francisco* - **Area:** *254 ha* - **Participating countries:** *32* - **Visitors:** *19.000.000* - **Costs:** *$ 25.865.914*

Constructed by temporary materials almost all the fair's various buildings and attractions were pulled down in late 1915. The only surviving building, Bernard Maybeck's *Palace of Fine Arts* slowly falling into disrepair. It was completely reconstructed in the 1960s and is currently occupied by the *Exploratorium*, an interactive science museum. The centerpiece was the *Tower of Jewels*, which rose to 435 feet and was covered with over 100.000 cut glass. In front of the Tower, the *Fountain of Energy* flowed at the center of the *South Gardens.* The *Machinery Palace*, the largest hall, dominated the east end of the central court. At the west end of central court group was the *Palace of Fine Arts*. Further west toward the bay down *The Avenue of the Nations* were national and states' buildings, displaying customs and products unique to the world-area represented.

Seat: *Montjuic Park* - **Designers:** *Sebastiano Locati, Aldo Corazza, Almerico da Schio* - **Area:** *118 ha* - **Costs:** *$ 25.083.921*

The Exposition celebrated the technolgical improvements in order to promote the image of Catalonia region in the world. Once again the Exposition brought an urban planning renovation on the Monjuic hill and Plaça d'España area. A lot of buildings were built for this exhibition: the Palau Nacional, the Fuente Magica, the Greek Theatre, the Poble Español and Lluis Companys Olimpic Stadium. Anyway one of the most important architecture of this exhibition is the German Pavilion by Luis Mies Van Der Rohe, which is still one of the most representative example of the Modern Architecture.

1933 - Chicago (USA)
1st Category - A century of progress

Seat: *Chicago* - **Area:** *170 ha* - **Participating countries:** *21* - **Visitors:** *22.317.221* - **Costs:** *$ 42.900.989*

The fair buildings were multi-colored, to create a "Rainbow City" as opposed to the "White City" of the World's Columbian Exposition. The buildings generally had a Moderne design to them in contrast to the neoclassical themes used at the 1893 fair. Other popular exhibits were the various auto manufacturers, the Midway, and a recreation of important scenes from Chicago's history. The fair also contained exhibits that would seem shocking to modern audiences, including offensive portrayals of African-Americans, a "Midget City" complete with "sixty Lilliputians", and an exhibition of incubators containing real babies.

1935 - Bruxelles (Belgium)
1st Category-Transports, Colonization

Seat: *Heysel Park, Bruxelles* - **Area:** *152 ha* - **Participating countries:** *30* - **Visitors:** *20.000.000* - **Costs:** *$ 29.452.475*

The Exposition was held in *Heysel Park*, Bruxelles, in 1935. The theme was colonization, on the 50th anniversary of the establishment of the *Congo Free State*. The fair attracted some twenty million visitors. Belgian architect Joseph Van Neck was the principal architect of the fair and of the Art Deco Palais de Expositions (Grand Palais), with its interior concrete parabolic arches, and its four heroic bronze statues on piers. Among many other contributors, Le Corbusier designed part of the *French exhibit*, and the Belgian modernist architect Victor Bourgeois designed the *Grand Palace*, the *Leopold II Restaurant* and the *Soprocol Pavilion*. The Palais des Expositions and at least three other of the 1935 structures were reused for Expo '58.

1937 - Paris (France)
2nd Category - Arts and techniques in modern life

Seat: *Paris* - **Area:** *105 ha* - **Participating countries:** *44* - **Visitors:** *31.040.955* - **Costs:** *$ 215.778.759*

The Exposition Internationale des Arts et Techniques dans la Vie Moderne (International Exposition dedicated to Art and Technology in Modern Life) was held in 1937 in Paris, France. The Musée de l'Homme was created at this occasion. The Spanish Pavilion attracted attention as the exposition took place during the Spanish Civil War. The pavilion, set up by the Republican government, included Pablo Picasso's famous painting "Guernica", a depiction of the horrors of war. Five hundred feet high, Speer's pavilion was completed by a tall tower crowned with the symbols of the Nazi state: an eagle and the swastika. The pavilion was conceived as a monument to "German pride and achievement". It was to broadcast to the world that a new and powerful Germany had a restored sense of national pride. Vera Mukhina designed the large figurative sculpture on the Soviet pavilion for the exhibition, whose architect was Boris Iofan. The grand building was topped with a large momentum-exerting statue, of a male worker and a female peasant, their hands thrusting a hammer and a sickle together, in a symbol of communist union.

1939 - New York (USA)
2nd Category - The world of tomorrow

Seat: *Flushing Meadows Park, Long Islands (Queens)* - **Designer:** *Hanry Dreyfuss* - **Area:** *500 ha* - **Visitors:** 44.955.997

The Exposition theme celebrated the Age of the Machines and its faith in science and technological progress. The USA hoped to come out from the complicate situation after the economical crisis in 1929. The chosen design style consisted in a modern and aerodynamic architecture, better represented in Trylon, a triangular-base tower 700 m high, and the Perisphere, a concrete sphere as wide as a entire block; these two elements will be recall also in the future the image and the trend of the american culture in that time.
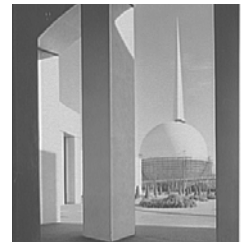
1942 - Rome (Italy)
Annulled because of the II World War - XX Anniversary of the march towards Rome

Seat: *E 42, EUR* - **Designer:** *Marcello Piacentini* - **Area:** *200 / 400 ha*

The Exposition was cancelled because of the Second World War; anyway the construction of the new neighborhood E 42 designed for the worldwide event was being started, even if it was accomplished in 1960 for the XVII Olympic Games. The E 42, afterwards called EUR, presented perpendicular streets, squared and massive buildings made of white marble and travertin stone to recall the temples and buildigns in the Imperial Roman Age. The symbolic architecture was the *Square Colosseum*.

Seat: *Bruxelles -* **Designer:** *M. Van Goethem -* **Area:** *200 ha -* **Participating countries:** *42 -* **Visitors:** *41.454.412 -* **Costs:** *FB 2.530.500.000*

The site is best known for a giant model of a unit cell of an iron crystal (each sphere representing an atom), called *Atomium*, which decades later remains one of the best known landmarks of Bruxelles. The fair is known for a musical milestone, a melding of musical composition and architecture. Edgard Varèse composed "Poème électronique," which was recorded to be played back from 425 loudspeakers, placed at specific points in the Philips Pavilion, designed by Iannis Xenakis while under the employ of Le Corbusier. The fair is also remembered for being the place where Orson Welles's *Touch of Evil* was awarded the top prize by critics Jean-Luc Godard and François Truffaut.

Seat: *city centre, Seattle -* **Area:** *30 ha -* **Visitors:** *9.000.000*

The *Century 21 Exposition* (also known as the *Seattle World's Fair*) took place in Seattle, Washington, USA.
As planned, the exposition left behind a fairground and numerous public buildings and public works; some credit it with revitalizing Seattle's economic and cultural life (see History of Seattle since 1940). The fair saw the construction of the *Space Needle* and *Alweg monorail*, as well as several sports venues and performing arts buildings (most of which have since been replaced or heavily remodeled). The site, slightly expanded since the fair, is now called Seattle Center; the United States Science Pavilion is now the *Pacific Science Center*. Another notable Seattle Center building, the *Experience Music Project*, was deliberately designed to fit in with the fairground atmosphere, but was built nearly 40 years later.

Seat: *St. Laurent Island, Montreal -* **Area:** *30 ha -* **Participating countries:** *62 -* **Visitors:** *50.306.648 -* **Costs:** *$ CAN 431.904.638*

The 1967 *International* and *Universal Exposition* or *Expo 67* was considered to be the most successful World's Fair of the 20th century. The project was not originally overwhelmingly supported in Canada. It took the determination of Montreal's mayor, and a new team of managers. After *Expo 67* end, the site and most of the pavilions lived on as an exhibition called *Man and His World*, open during the summer months from 1968 until 1981. By that time, most of the buildings, which had not been designed to last beyond the original exhibition, had deteriorated and were dismantled. Today, the islands that hosted the world exhibition are mainly used as parkland and for recreational use, with only a few remaining structures from Expo 67. Anyway many Canadians from that time still regard it as one of the country's finest cultural achievements.

Seat: *Osaka -* **Area:** *350 ha -* **Participating countries:** *75 -* **Visitors:** *64.218.770*

A popular highlight of the fair was a large moon rock on display in the United States' pavilion. It had been brought back from the moon by *Apollo 12* astronauts in 1969. The Expo also featured demonstrations of early mobile phones, local area networking and maglev train technology.
The site of Expo '70 is now *Expo Commemoration Park*. Almost all pavilions were demolished, and there remain some memorials a part of the roof structure for *Festival Place* designed by Kenzo Tange. Among a few still-intact pieces, the most famous one is the *Tower of the Sun* designed by the Japanese artist Okamoto Taro. The former international art museum pavilion designed by Kiyoshi Kawasaki was used as the building for the National Museum of Art, Osaka (moved to downtown Osaka in November 2004) until March 2004.

PROTOCOL 1972 (STARTING FROM 1975 UNTIL TO 2000)

Seat: *Motobu Peninsula, Okinava* - **Area:** *100 ha* - **Participating countries:** *37* - **Visitors:** *3.485.750*

Expo 75 was conceived, in part, to commemorate the American handover of Okinawa to Japan in 1972. The theme of the exposition was about oceans, and focused on oceanographic technologies, marine life, and oceanic cultures. The motto was "The sea we would like to see". The keynote speaker on opening day was American author James A. Michener. The centerpiece of *Expo 75* was the Aquapolis a floating city designed by Japanese architect Kiyonori Kikutake. It represented the concept of how humans could live harmoniously on the ocean, and a prototype for marine communities. The *Aquapolis* was constructed at a shipyard in Hiroshima, Japan, and then towed to the Expo site. After the Expo was over, the site became *Okinawa Commemorative National Government Park*, also known as Ocean Expo Park. Most of the exhibits were removed, although the *Aquapolis* was retained as an attraction and eventually hosted four million visitors.

Seat: *Knoxville* - **Area:** *30 ha* - **Participating countries:** *16* - **Visitors:** *11.127.786*

The 1982 World's Fair, formally known as the *Knoxville International Energy Exposition*, was held in Knoxville, Tennessee, in the United States. The theme of the exposition was "Energy Turns the World". Participating nations included Australia, Belgium, Canada, China, Denmark, Egypt, France, Greece, Hungary, Italy, Japan, Korea, Luxembourg, Mexico, Netherlands, Panama, Peru, Philippines, Saudi Arabia, United Kingdom, United States, and West Germany. The core of the site primarily consisted of a deteriorating Louisville and Nashville Railroad yard and depot. The railroad yard was demolished, with the exception of a single rail line, and the depot was renovated into a restaurant. The Sunsphere, a 266-foot (81 m) steel tower topped with a five-story gold globe, was built for the 1982 World's Fair. It still stands and remains a symbol for the city of Knoxville. In 2007, the East Tennessee Historical Society opened an exhibit commemorating the 25th anniversary of the *World's Fair.*

Seat: *New Orleans* - **Area:** *34 ha* - **Participating countries:** *26* - **Visitors:** *7.335.279* - **Costs:** *$ 350.000.000*

Plagued with attendance problems, the 1984 Louisiana World Exposition has the dubious distinction of being the only exposition to declare bankruptcy during its run. Many blamed the low attendance on the fact that it was staged just two years and two states from Knoxville's 1982 World's Fair, and also on the fact that it coincided with the 1984 Summer Olympics in Los Angeles. There hasn't been a World's Fair in the United States since. The site along the Mississippi River was cleared of rundown warehouses, replaced by the structures of the Fair. Despite its problems, the fair is fondly remembered by many New Orleans residents as well as for its noteworthy post-modern architecture. One of the fair's more famous attractions was the Mississippi Aerial River Transit (MART). This was a gondola lift that took visitors across the Mississippi River. Most other structures and the MART were demolished after the fair closed. After the closing of 1984 Louisiana World Exposition, the monorails were moved to Florida and re-used at Miami MetroZoo.

Seat: *Tsukuba Science City, Ibaraki* - **Area:** *100 ha* - **Participating countries:** *111* - **Visitors:** *20.334.727*

Expo 85, officially called *The International Exposition,* was held in Tsukuba. The place was a *Science City*, thus a planned city focused on technology north of Tokyo.
The theme of the fair was "Dwellings and Surroundings - Science and Technology for Man at Home". Attendance was over 20 million and 111 countries participated.

Seat: *Vancouver* - **Area:** *70 ha* - **Participating countries:** *54* - **Visitors:** *22.111.578* - **Costs:** *$ 802.000.000*

Expo '86 was opened by Charles, Prince of Wales, Diana, Princess of Wales, and Prime Minister Brian Mulroney.
It featured pavilions from 54 nations and numerous corporations. Expo's participants were given the opportunity to design their own pavilion or opt for the less expensive Expo module. Each module was approximately two-and-a-half stories high and had the floor space equal to a third of a city block. The design was such that any number of the square modules could be placed together in a variety of shapes. The roof design allowed the interior exhibit space to be uninterrupted by pillars.

*Seat: Brisbane - **Area:** 40 ha - **Participating countries:** 36 - **Visitors:** 18.574.476 -*
Costs: $ AUD 625.000.000

World Expo 88, also known as Expo '88, was a World's Fair held in Brisbane, the state capital of Queensland, Australia, during a six-month period between 30 April 1988 and 30 October 1988. The theme of the Expo was "Leisure in the Age of Technology", and the mascot for the Expo was an Australian platypus named Expo Oz. The AU$625 million fair was the largest event of the 1988 Bicentennial celebrations of the European settlement of Australia. The event achieved both its economic aims and very good attendances, was successfully used to promote Queensland as a tourist destination and it spurred a major re-development at the South Brisbane site. Many of the exposition's sculptures and buildings were retained by various entities around the state and are still in use or on display decades later.

*Seat: Isla de la Cartuja, Seville - **Area:** 215 ha - **Participating countries:** 111 - **Visitors:** 42.092.571 -*
Costs: $ 928.471.600

Expo'92 Seville was widely known for its massive site, held at the Isla de la Cartuja, reputed site of reference for Columbus for his voyage to the New World, and required at least a several day visit to visit most of the Pavilions. It was also known for its numerous spectacular gates and bridges, and the diversity of transport within the Expo site from bus to ferry boat, to cable car and monorail. It also gave an impressive architectural tour of the world, with many countries vying for the position of the most inventive or creative Pavilion structure. Pavilions at the Expo consisted of the Royal Pavilion and the five thematic Pavilions - Navigation, Discovery, Nature, Environment, and the Fifteenth Century.

*Seat: Taejon - **Area:** 90.1 ha - **Participating countries:** 141 - **Visitors:** 14.005.808 - **Costs:** $ 5.032.293*

The theme of the exposition was "The Challenge of a New Road of Development", with various other sub-themes around sustainable and 'green' development. The exposition was an officially-endorsed BIE (Bureau of International Expositions) specialized exposition commemorating the centenary of the first-ever representation of the "Hermit Kingdom" (Korea) to a world exposition, namely the 1893 Columbian Exposition of Chicago. It was also the first exposition held in a developing country. The exposition site consisted of three main areas - the international zone, the corporate zone and the fun park zone. Being a specialized exposition, the pavilions in the international zone were for the most part pre-fabricated and rented out to the various international participants for the duration of the exposition. One hundred and eight nations participated at Taejon Expo '93 - making it one of the largest expositions ever held. Among the most memorable were the flagship Korean and United Nations Pavilions.

*Seat: Lisbon - **Area:** 350 ha - **Participating countries:** 146 - **Visitors:** 10.128.204 - **Costs:** $ 1.813.001.200*

Expo 98's theme was "The Oceans: A Heritage for the Future". There were additional thematic pavilions dedicated to Water, Sea Knowledge, Virtual Reality (paid), Future, Oceans, and Oceanophilia; and exhibitions: "Leonardo Da Vinci@expo098 - La Dinamica dell'Acqua", "Roads of the Porcelain", and "Shells and Man". Additional attractions included a 15,000-seat Utopia Pavilion with a resident theatrical show, Camões Theater, nautical exhibition, Garcia de Orta tropical gardens, Swatch Pavilion, "World of Coca-Cola" exhibition, Expo Adrenalin, 120 m-tall observation tower (paid) , funicular (paid), and nightly water-show Acqua Matrix. One of the five major theme pavilions at Lisbon's *Expo 98,* the *Utopia Pavilion,* was one of the most popular. The Oceania Virtual Reality Pavilion was the biggest hit of Lisbon's Expo 98, attracting over half a million visitors in a four-month period. The *Oceans Pavilion,* built to be the Lisbon Oceanarium after the Expo closed, had the longest lines. Other popular pavilions included Portugal, Spain, Sweden, Germany, and Virtual Reality.

*Seat: Hannover Messe, Hannover - **Area:** 160 ha - **Participating countries:** 155 - **Visitors:** 17.997.638 -*
Costs: $ 713.740.000

Expo 2000 was a World's Fair held in Hannover, Germany from June 1 to October 31, 2000. It was located on the Hanover fairground (Messegelände Hannover), which is famous for hosting CeBIT. The fair was not a financial success.
The fair's masterplan was designed in a joint venture with Studio d'Arnaboldi / Cavadini, Locarno and AS&P (Albert Speer und Partner GmbH).

PROTOCOL 1988 (STARTING FROM 2005)

Seat: *Aichi, Nagoya* - **Area:** *173 ha* - **Participating countries:** *121* - **Visitors:** *22.049.544* - **Costs:** *$ 4.012.000.000*

Expo 2005 was the World's Fair held in Aichi Prefecture, Japan, east of the city of Nagoya. The theme of the Expo was "Nature's Wisdom," with national and corporate pavilions expressing themes of ecological co-existence, renewable technology, and the wonders of nature. The main site of the Expo was a forested area in Nagakute, east of Nagoya, covering an area of about 1.85 square kilometres. A smaller area nearby, accessible by gondola from the main site near Seto was also part of the Expo. Great care was taken to build the pavilions out of recycled or recyclable materials, to minimize environmental impact on the site, and to provide environmentally friendly transportation to and within the Expo area. The cost of the Expo has been estimated at 340 billion yen. However, the recorded 22.049.544 visitors greatly exceeded the target of 15.000.000 and the Expo made a profit of over 10 billion yen.

Seat: *Zaragoza* - **Area:** *150 ha* - **Participating countries:** *106* - **Visitors:** *-* **Costs:** *$ 173.191.500*

The exposition was placed in a meander of the river Ebro. It was coordinated by the Bureau of International Expositions, the organization responsible for sanctioning World's Fairs. Zaragoza, host city for the International Exposition, is the administrative and financial capital of the autonomous community of Aragon and Spain's fifth most populous city. The exhibition's most emblematic buildings were the *Water Tower,* a 80-metre-high transparent building designed by Enrique de Teresa to evoke a drop of water, Zaha Hadid's *Bridge Pavilion,* and the river *Aquarium.* The exposition site also hosted several events, including a daily parade by Cirque du Soleil called The Awakening of the *Serpent.* Aside from the countries, non-government organizations and private companies took part in Expo 2008, always with the idea of water and sustainable development.

Seat: *Shanghai* - **Area:** *530 ha* - **Participating countries:** *191* - **Expected visitors:** *70.000.000* - **Costs:** *$ 40.800.000* - **ONGOING EXPO**

Seat: *Yeosu* - **Area:** *90 ha* - **Participating countries:** *108 at the moment* - **Expected visitors:** *14.000.000* - **NEXT PLANNED EXPO ON 2012 assigned by BIE**

Seat: *Milan* - **Area:** *200 ha* - **Participating countries:** *175 at the moment* - **Expected visitors:** *21.000.000* - **NEXT PLANNED EXPO ON 2015 assigned by BIE**

1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
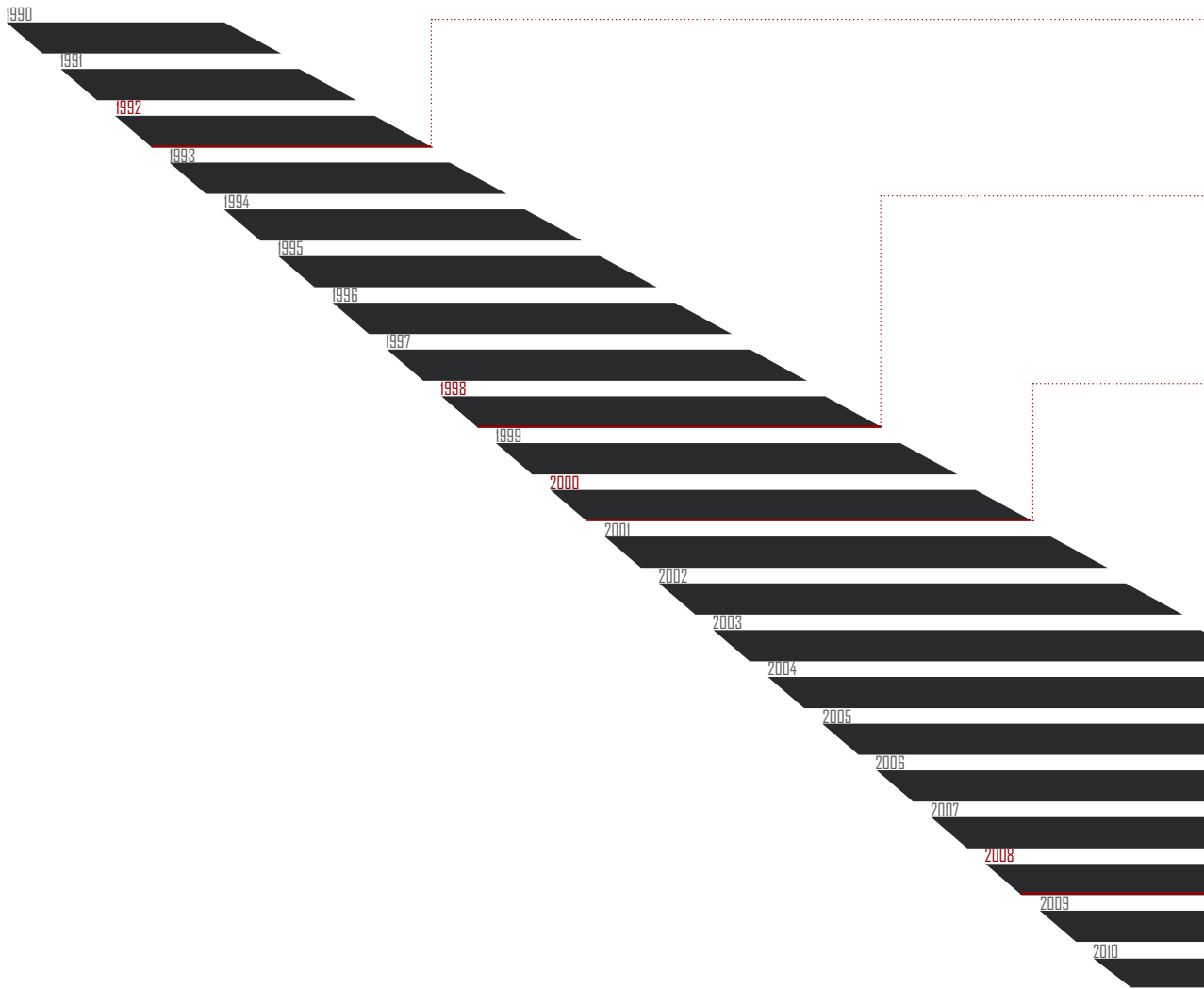
EXPO SEVILLE 1992

EXPO LISBON 1998

EXPO HANNOVER 2000

EXPO ZARAGOZA 2008

BACK TO FOUR EXPO AREAS

HANNOVER 2000
ZARAGOZA 2008
LISBON 1998
SEVILLE 1992

CASE STUDIES MAP
SEVILLE 1992 /SPAIN - LISBON 1998/PORTUGAL - HANNOVER 2000/GERMANY - ZARAGOZA 2008/SPAIN

ABOUT THE IMPACT AFTER AN EXPO EVENT

- five Expo areas as case studies -

In this section five different case studies are presented to analyse the issue concerning the urban areas future afterwards an Expo event. Although each Expo city considered is very different from the others for historical, urban, social context there are some common points which can be gathered. All the five chosen examples are european cities, meaning the presence of an ancient past, rich of culural exchanges and influences within the same continent. The result of this elaborated data is a matrix constituted by the main indicators in order to describe graphically, analitically and quantitatively the case studies analysed.

The current situation of the Expo area in Hannover city has been taken as the starting point for this research; the other chosen case study examples move from the experience in Hannover, both before and after the Universal Exposition in Hannover. In this way it is possible to have a reasonable time line in order to consider the recentest events during the last twenty years, starting from 1990 until 2010; moreover it's been possible analysing the general success trend of each Expo event in this period of time, remaining focused on the main issue about the territorial and architectonical inheritance left to each hosting city after each exhibition. In comparison to Hannover situation the other european examples are Seville-1992, Lisbon-1998, Switzerland-2002, Zaragoza-2008.

These five places were also been discussed in the event EXPO*DOPO*EXPO, a series of meetings which took place in Milan in May 2009, where five photo-reporters described through their photographic spots each situation present in each of these european places nowadays. The aim of these meetings was to discuss and find a reflection intent to prepare the city of Milan to all those problems which can appear afterwards the Expo in 2015: a sort of prevention, before a possible disaster and dangerous settlement in the Expo area after the event in 2015; in this way the discussion invited to think immediately the possible and reseanable urban destination of the Expo areas in Milan to not have heavy architectonical inheritances, too hard to manage, staying in those places like forgotten phantom-presences.

Describing the common trends analyzed in this last twenty years after an Universal Exposition it can be affirmed that there is a general and constantly growing forgetfulness about the urban spaces which hosted the event. Generally the Expo is taken as a chance to improve and increase some urban needs, particularly solving infrastructural and transports demands. As a matter of facts huge econimcal investements are spent to organize and realize the Universal Exposition by hosting cities. By prepearing an exhibition such Expo the administrators have the opportunity to invest a lot of money in urbanistic projects; that is harder to do by investments of public finances because the national and european financial laws tend towards to preserve the own national economical equilibrium.

BIE (Bureau International Expo) is the corporation which cares economically about the whole organisation of the International Exposition, from the assignment of the hosting city until its realization and developing. BIE gathers final reports about each event which ones describe quantitatively the achieved outcomes during the Expo. Apparently reading the BIE numbers' and reports' it seems that each Expo reached a very good level of visitors and public notoriety, recording every time a successful outcome. On the other side there is the real and concrete situation: these events never seem to achieve the predicted expectations in terms of economical returns and number of visitors. Particularly the number of real visitors has been decreasing for the last twenty years, and this datum is clearly readable among the numbers given by BIE: starting from Seville 1992 with about 41 millions of visitors, it is approximately reached the 5 millions ones during Zaragoza 2008, with a -12.5 % recorded in sixteen years.

There is also a practical and physical aspect to consider that is the architectonical and urban inheritances left on the ground after an Universal Exposition. Although organizing and projecting an Expo is the occasion, as it said before, to receive extraordinary investments to improve and increase in particular the infrastructural and urbanistic demands in a city together with the services and trading sector, tematic pavilions built to host each invited nation generally are going to stay and last on their own lot of ground for an undetermined periodof time, becoming phantom-appearances in a forgotten urban area after a so short-lived exhibition.

Looking at all the Expos through the whole historical timeline a sort of paradoxical consideration can be made about the architecture. In the past, starting from the first Universal Expositions occured between the second half of IXX and the XX centuries, these kind of exhibitions were already thought as temporary shows concerning themes like industry, agricultural, culture. Pavilions were designed thinking to their effectively dismantling after the

event: an example could be exactly the Chrystal Palace by Paxton during the Universal Exposition in London in 1851. Moreover at that time the Expo meant also the occasion to complete the urban drawing in specific parts of the hosting city, properly where the urban grounds were occupied by the exhibition pavilions. An example of this kind of strategy could be mentioned the Universal Exposition in 1889: the Eiffel Tower designed and built for this event, nowadays it is the historical symbol of that Exposition, while all around where the ephemeral pavilions were displaced, today we can see and walk through the urban gardens Champ Du Mars. So this is the case when an important european city such as Paris took the chance after a worldwide event to change pretty quickly its urban configuration: a new scenery was created, consisting in a wide urban green area connected to the main transports city lines and placed around a celebrated construction become a symbol for the city itself, being one of the most famous contemporary monument in the world. What about Seville 1992, Lisbon 1998, Hannover 2000 or Zaragoza 2008, as contemporary Expo area?

Even if they were designed respecting the principle of a temporary event, it seems that in some way they are all the confirmation of a failure of that ephimeral concept: the built tematic pavilions representing the different nations in the world, although their short-lived features, seem to be designed as they have to stay forever on the Expo grounds, showing in fact a false temporary concept. Finally all these structures were abandoned on those places; whenever the pavilions were dismantled, the empty spaces were left without any qualified urban destination, most of the times tranformed in useless car-parking areas.

In the end here is the contrasting consideration: during the end of IXX and the first part of XX cenuturies, while the technological field was started to be experimented and improved concerning industrial and productive sectors there was a sort of wider speed in answering to the demands and the possible future sceneries after the realization of a temporary event such an Universal Exposition. Indeed, nevertheless the improvement and increase of different technologies have transformed the whole planet in terms of information exchanging efficiency, they seem to have slowed down designing process of a temporary event, not planning the future of all those urban areas which in fact have been decaying and forgetting since the

end of the hosted Expo, creating such *black holes* in the urban drawn plan. In the past, in a slowest technological period Expo was taken as a chance to improve the future of the hosting cities in urban design, while approaching recentest times, characterized by fastest and better developed technologies, temporary events leave more and more urban voids, places destined to be forgotten, considering also the economical growth that should be verified during an Expo organisation is limited to the the duration of the event, never reaching the predict profits. The organization and design process of an Expo should be reconsidered nowadays. Some radical changes occurred in our global society: urban growing and sprawl phenomena, possibility to exchange information and communicate practically in real time from different parts of the world due to an improving tecnologycal development. These aspects are the main causes of the recentest EXPO failures. Probably the model proposed by BIE it is not successful anymore: the idea to have an enclosure where to build and settle the temporary pavilions is more appropriate to the Industrial Age, when the exposition represented a moment of comparison, exchange of information and communication among different worldwide nations. On the contrary today this need to compare different cultures organizing a worldwide event seems to not be as important as in the past: any kind of information can be easily found thanks to the web, which is the new place of meeting to exchange information. Anyway even if the EXPO is bound to an old fair pattern, it doesn't mean that this kind of event should have been cancelled. A reasonable solution could be a radical reorganization: surely the event should be coordinated by an institution like BIE; some changes indeed should be in arrangements and kind of exposition, breaking the idea of the enclosure; the contribute by people is important too in order to transform the preparation of a worldwide event as a partecipating experience where also citizens, and not only the hosted countries and organizations, can take part in it.

In the end it is also necessary to think and design new sceneries for all those urban areas which have already hosted the event and have been left to their own destiny, without a real concrete project for their own future as a real part of a city.
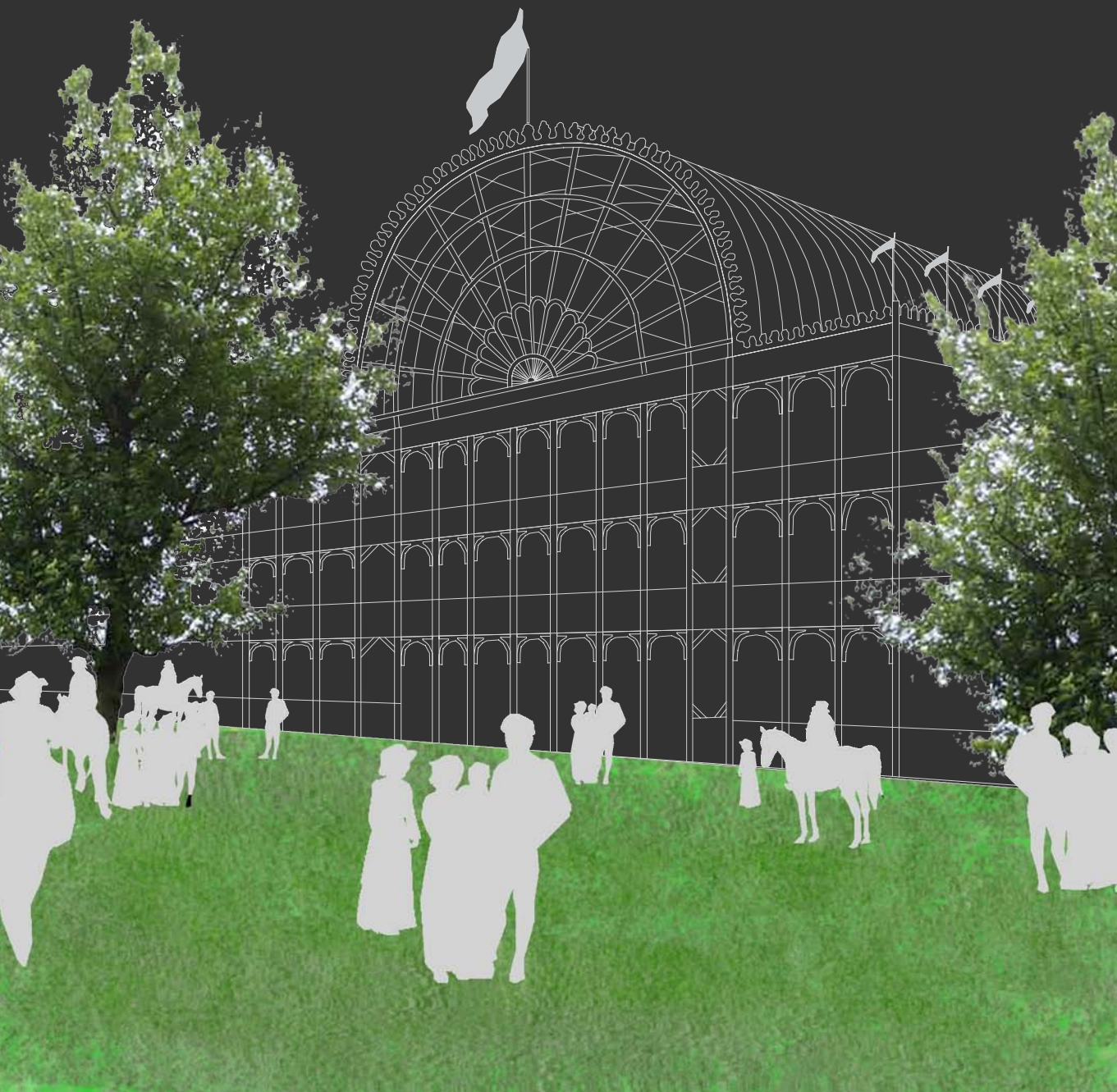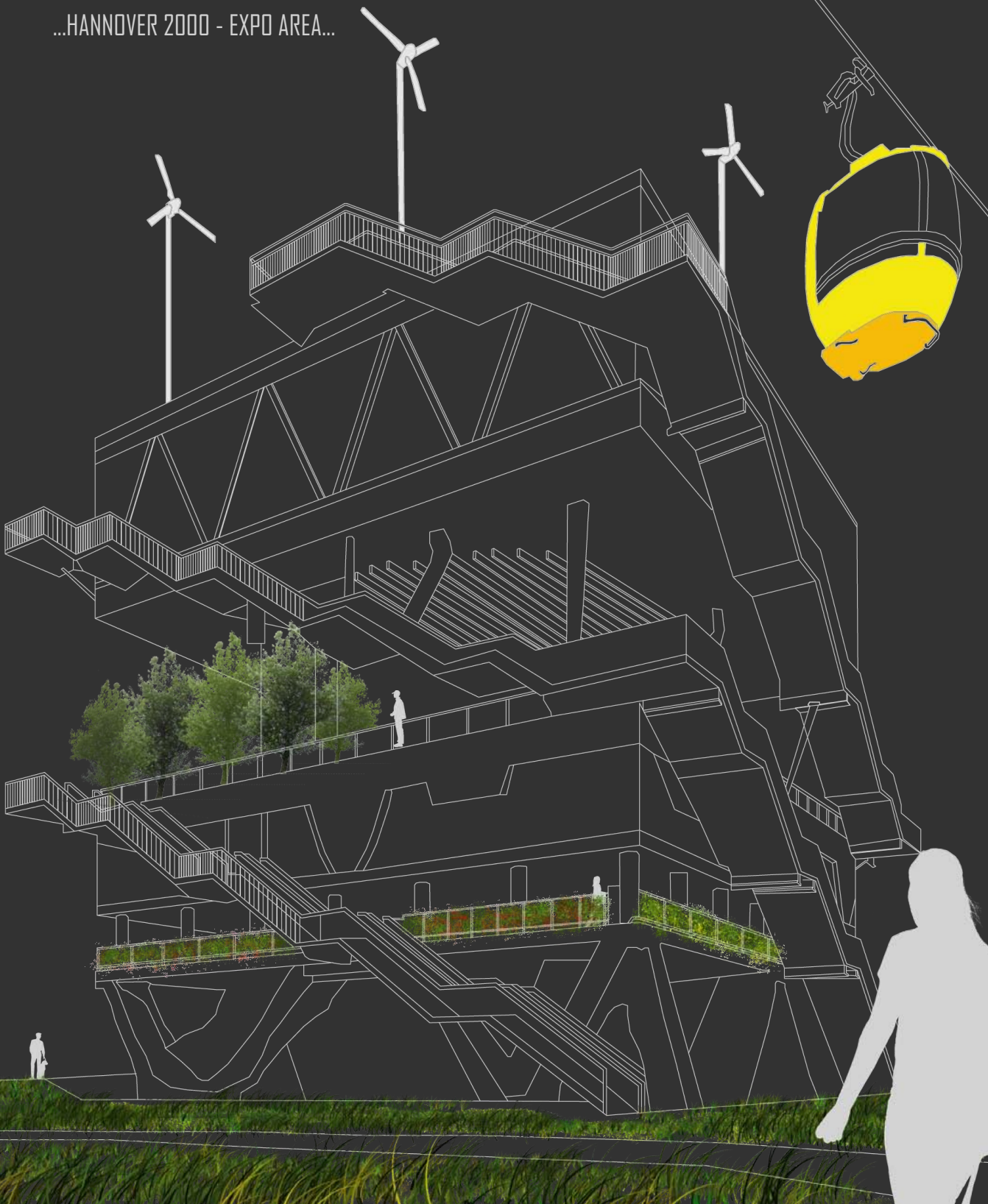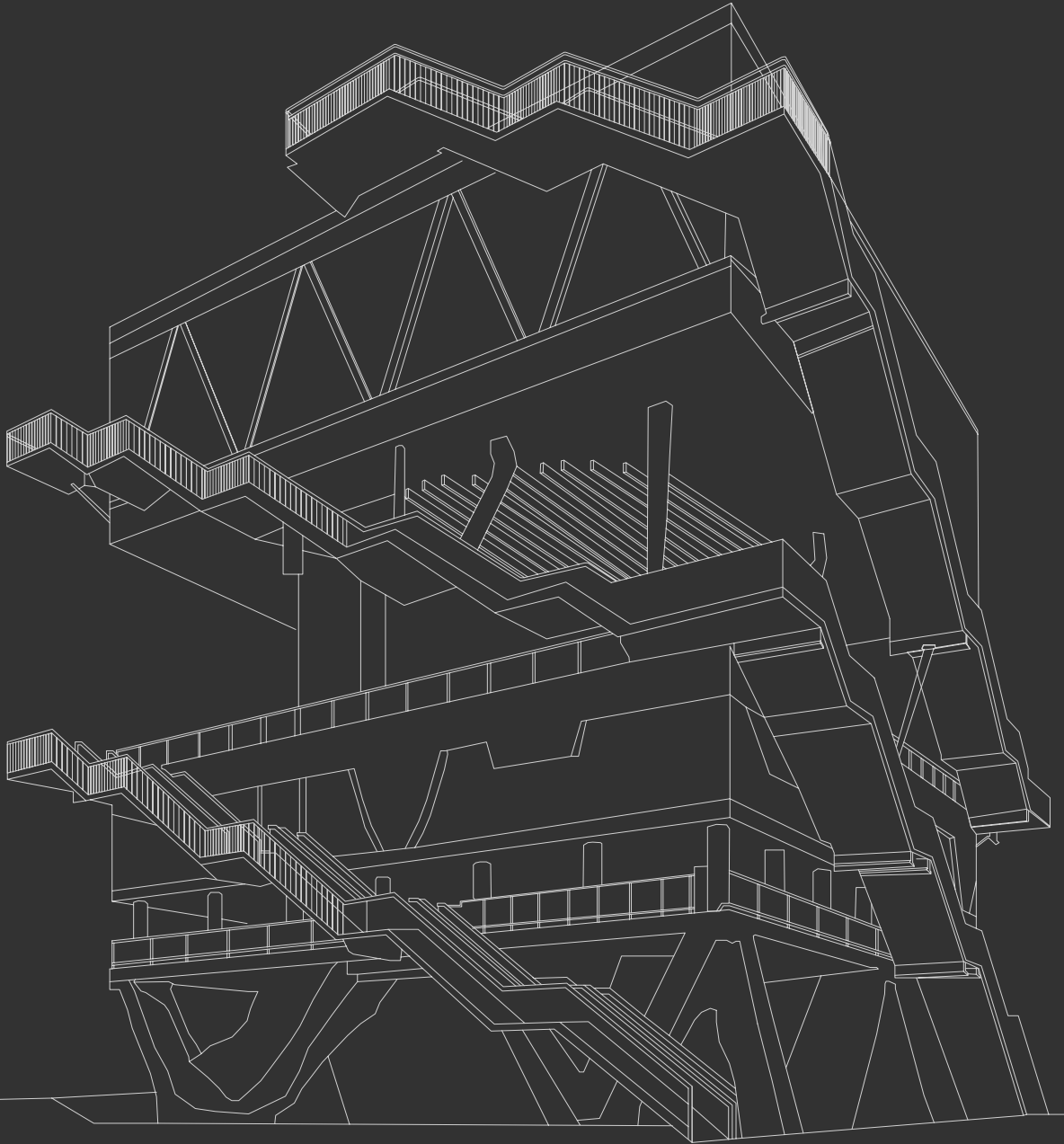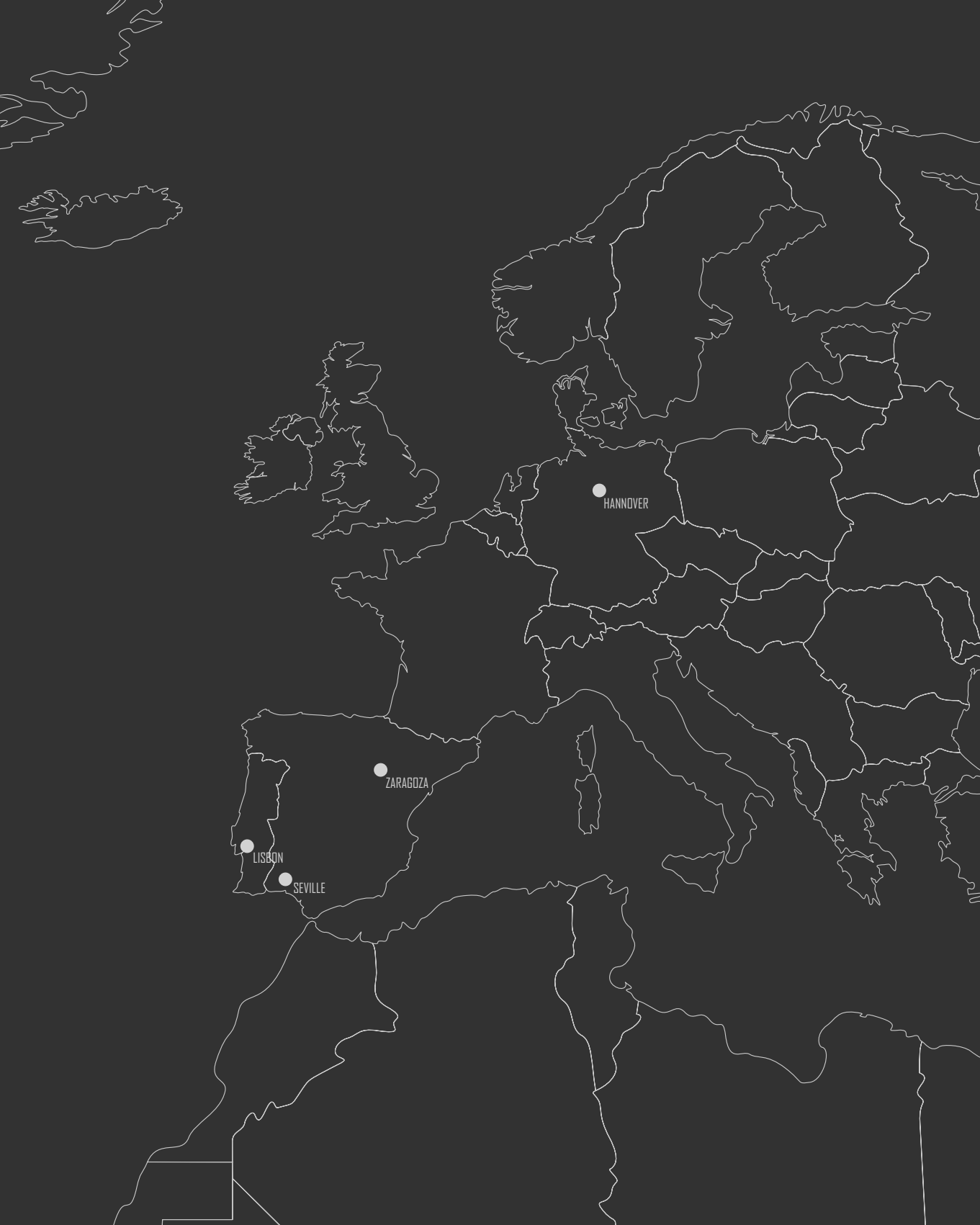
EXPO DOPO EXPO

- a glance by five reporters on environmental and urban inheritances in five European Expo cities -

Claudio Sabatino	*Seville*
Marco Introini	*Lisbon*
Claudio Gobbi	*Hannover*
Maurizio Montagna	*Switzerland*
Gabriele Basilico	*Zaragoza*

Since almost two centuries until nowadays the International Exposition have been representing events, showing the national identity, involving a lot of money and contributes by the hosting cities both from an architectonical and infrastructural point of view. Making a provision for next Expo edition in the city of Milan in 2015, the Ordine of Architects of Milan has promoted a meetings series and planned five photographical reportages in five different european cities which hosted the Expo during last 20 years.

The purpose was to discuss and gather information, also by images, the current environmental reality in these previously exposition areas, and their integration with the urban context after the event, their visual impact and the problems related to the reuse of some architetonical structures.

Fair quarters, their architectures and facilities used for services and above all the architectures built specially to national pavilions, present some specific problems case by case, but they all show how much is important the issue about **after-Expo** in the same concept of fair design projects, forcing a reuse program or a dismantling of most part of the exposition structures after the Expo.

Although the cities of Seville, Lisbon, Hannover, Zaragoza have different qualities and urban contexts, they testify how the traditional conceptions about the expositions, bound to a strategy of building complex structures and national pavilions with a futuristic image, leave on the ground a physical, architectonical and urban inheritance that is hard to manage and generally cut out and not connect to the complex urban context where the same was hosted. The current situation about the Expo 2002 in Switzerland, which was designed using widespread territorial strategies and less ambitious architectonical purposes, represent, even if with some temporal and dimensional limits, the real possibility to think about specific solutions according to different physical and structural features in order to put the residual parts of the Expo only in that virtual space that is collective memory.

The exhibition consists of a selection of about one hundred images gathered during this photo research work.

Tranlation from an essay by Franco Raggi

SEVILLE 1992 - THE DISCOVERIES AGE

- report from EXPO*DOPO*EXPO -

The selected area is *Cartuja Island*, a big lot of land located between a Guadalquivir river branch and an artificial rectilinear canal built in the 1970s to regulate its very frequent flood phenomena.

It is a 450 ha areas, near the historical city centre, and before the Expo (n.d.t.) it was not much accessible place from the city. The area is characterized by natural intact features, with the presenc of orange and mais cultivations where few farm building take place.

In 1986 a competition by invitations was announced and the winners were *Project Ambasz* and *Project Fernandez Ordonez - Perez Pita*: however these outcomes won't be realized. The Expo, indeed, will be designed by an internal Commission through the institution of an actuative administration plan.The resulted scheme consists in a rigid grid made of expositive *quadras*, resuming a fair pattern where the insediative concept follows the idea to have some tematic and definitive pavilions and some national and regional pavilions to recover after the Expo as the possible settlement of a *Science and Technology Park*.

At the end of Expo-Seville-1992, it is created *Cartuja 93*, an organisation managed partly by public corporations and partly by private ones, which as soon as built up another very extended area, near the Technologycal Park, where an amusement-park called *Isla Magica*.

By the Olimpic Stadium construction in 1999 designed for 60.000 sit-places, it is underlined the intention to urbanize the ex-Expo area with entertainment functions.

The Expo turned the light on the whole city of Seville, transforming its infrastructural system which were lacking previously the worldwide event occurred. In particular the train-line on the historical centre side was deleted, and a new way circle around the same city-centre was created; on the Guadalquivir river were built new bridges; finally a new main train station and high-speed train-line were realized.

Although the high infrastructural progress reached, there was surely a limited development concerning the reuse aspect: the Expo area has been simply used like a safety-valve to host not homogeneous entertainment structures and services, due to the lack of a good quality recovery project.
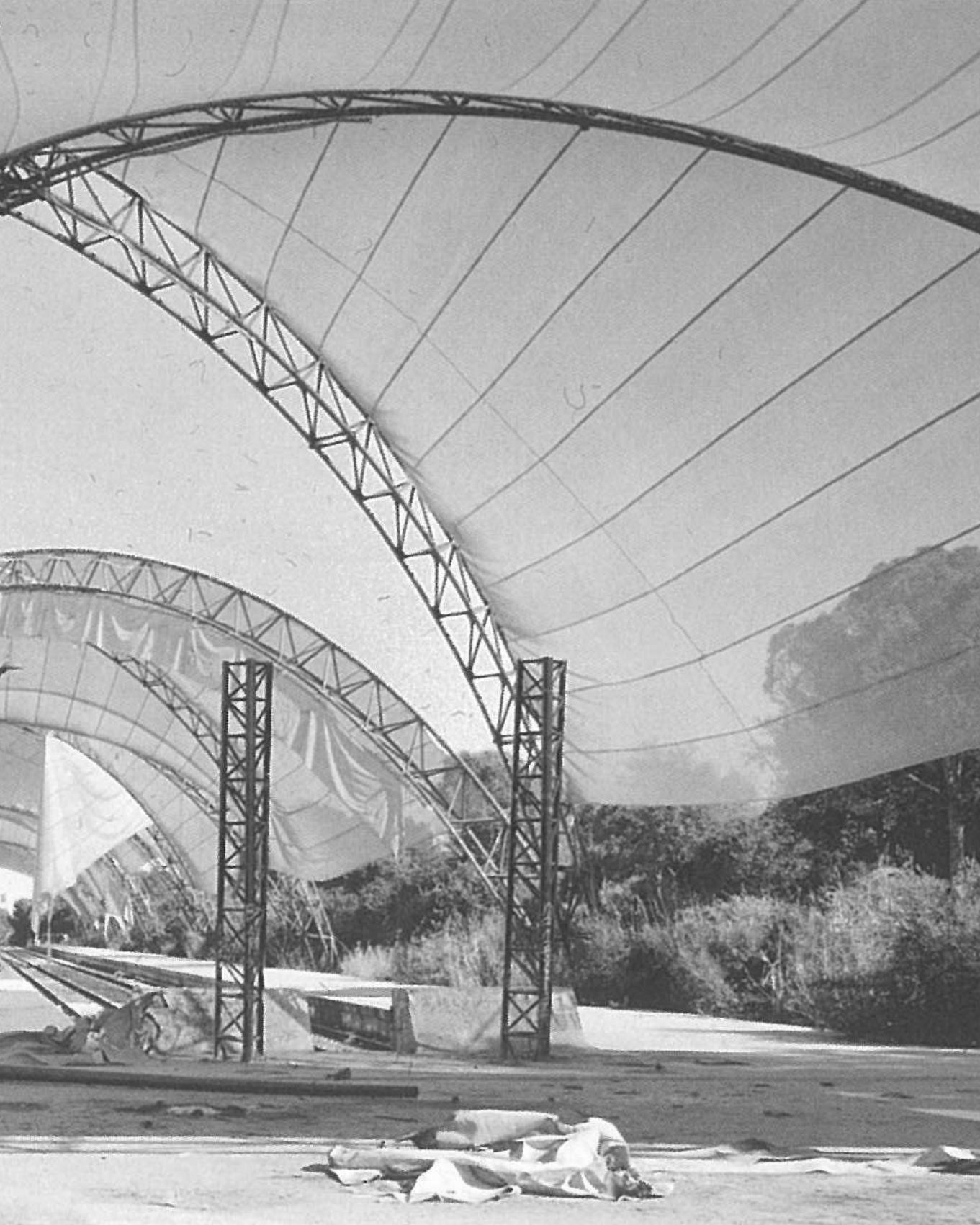
LISBON 1998 - OCEANS, HERITAGE FOR THE FUTURE

- report from EXPO*DOPO*EXPO -

In a 600 meters wide and 5 km long ground, parallel to the Tago river mouth, the Expo embodies perfectly its theme recovering a semi-dismantled industrial area.

Expo theme, bound to the celebrations for Vasco Da Gama's discoveries, isn't so distracted from more concrete aims that Comitate, since from the start, would not applied the outcomes of the 1993 International Competition won by Foster and Vicent with a too traditional "fair" concept for setting the area.

The 340 ha of the dismantled industrial area aim to rebuilt a relationship between the city and the river.

Thanks to both the creation of new infrastructures, able to be a guide for the future buildings, and the "light" morpholgycal grid made of a "regulator tridemensional modul" corresponding to the blocks mesures, the Expo want to be able to adapt in another moment - aftewards the exhibition - for a easy reuse where housing/residence is the main function. Since immediately there is the hypothesis to assign the half of the area for residential functions, through the grounds sell which will finance the most of the part of the Expo structures and exhibitions.

Two important infrastructures serve the area: former is the big Vasco Da Gama's bridge, 12.5 km long, crosses the Mar de Palha basin, serving the upper part of the Expo area; latter is the Estacao de Oriente a huge interchanging and gothic-technological junction by Santiago Calatrava, that is also an hinge-connection between the Expo area and quarters of the city.

Using a realistic pattern for the infrastructure integration, the city look ahead the Expo and national pavilions will be hosted in two wide covered and delimatated spaces (International North Area and International South Area), places which delete the typical and specific features of the pavilion. The result is that the different nations will be freely given the two areas for the pavilions with the alternative possibility to invest more important resources in thematic exhibitions rather than in the often retoric design architectural project of the buildings.

Among the constructions which characterize the Expo there are the following ones: the Utopic Pavilion by SOM, a big-ring volume as a 11.000 sits cinema and after the Expo it is destinated to become a Sports Palace; the Portugal Pavilion by Alvaro Siza, two buildings displaced such a courtyard and linked by a big concrete and very thin tend as a light and architectonical sign of the connection between the two oceans (Atlantic and Pacific).
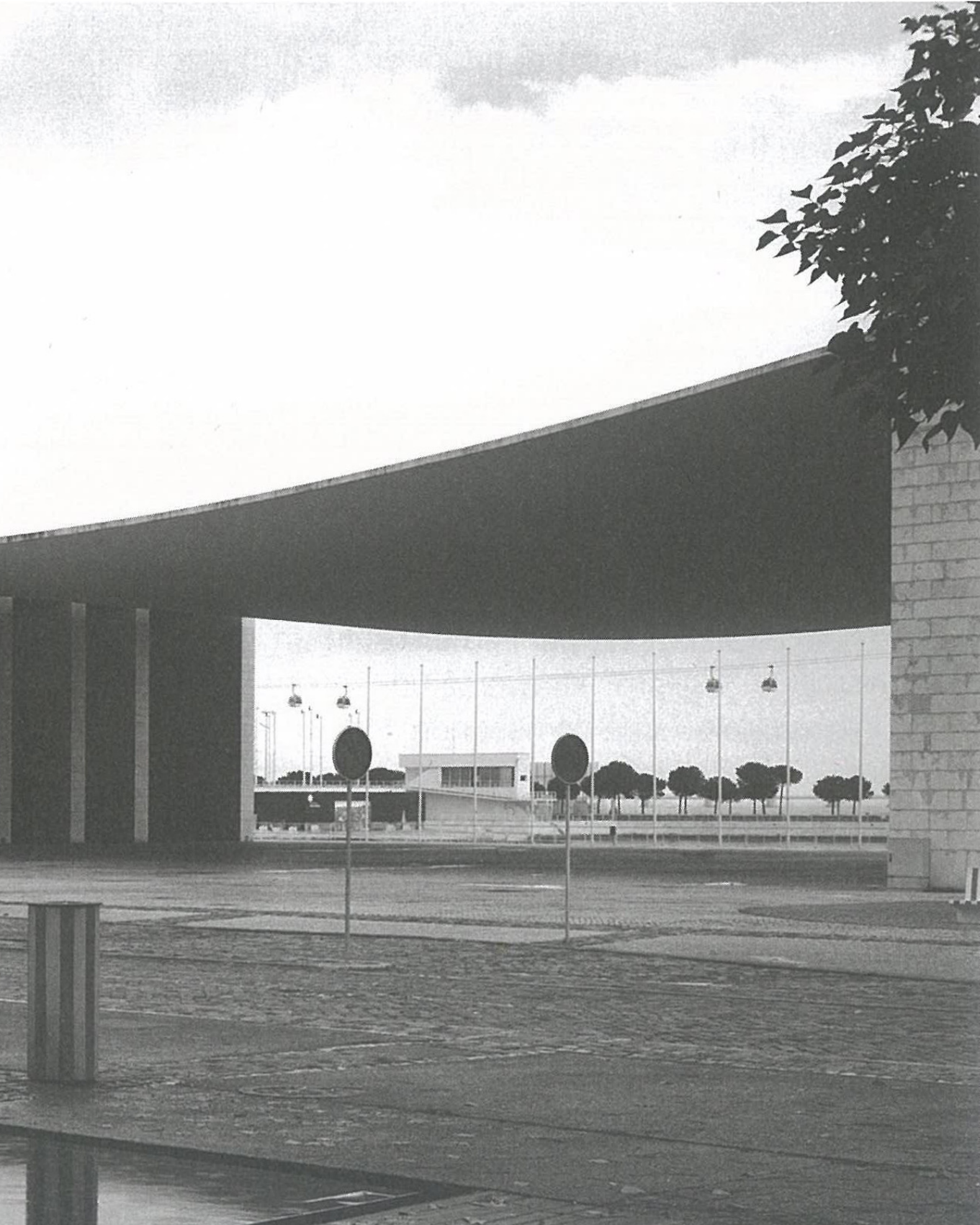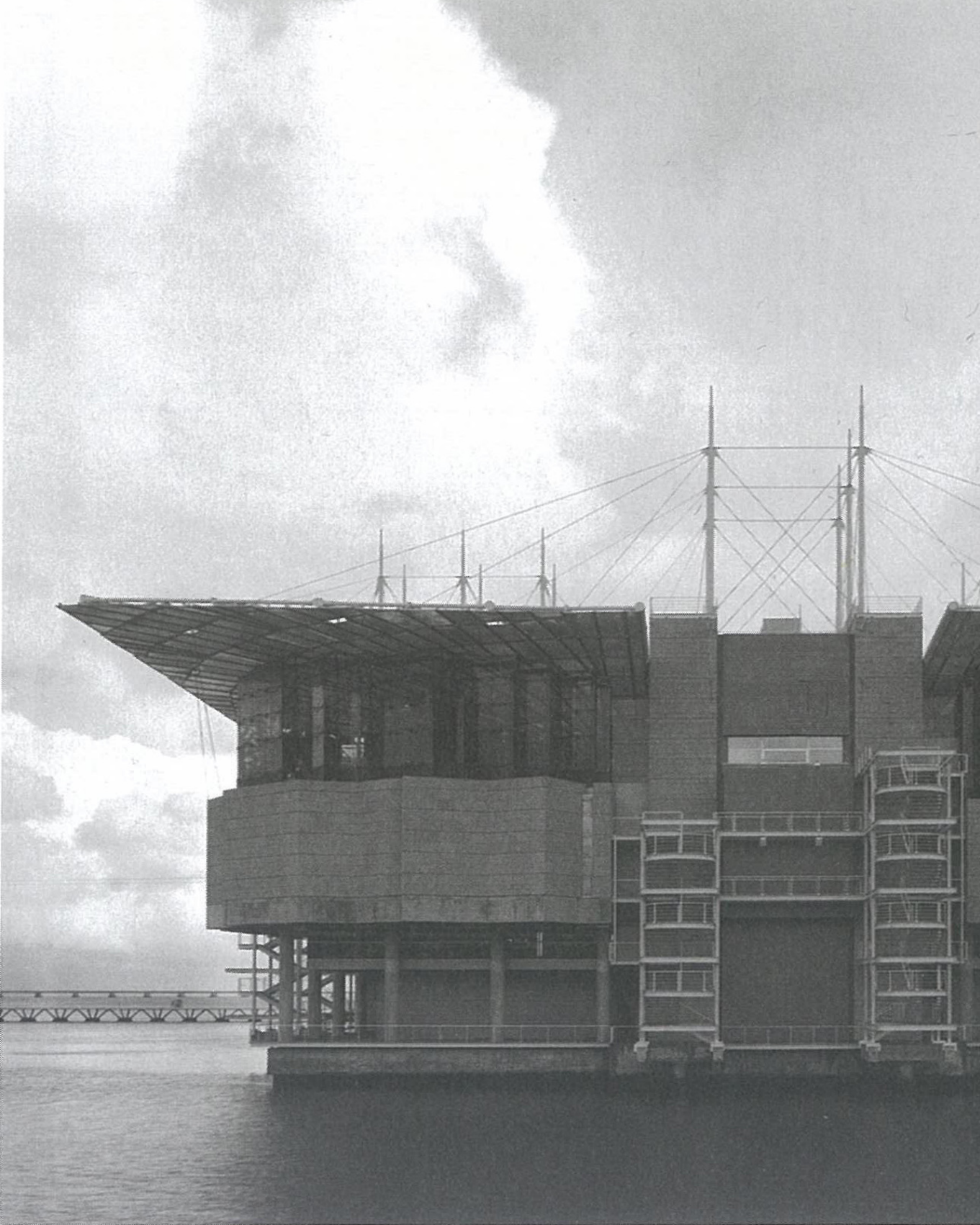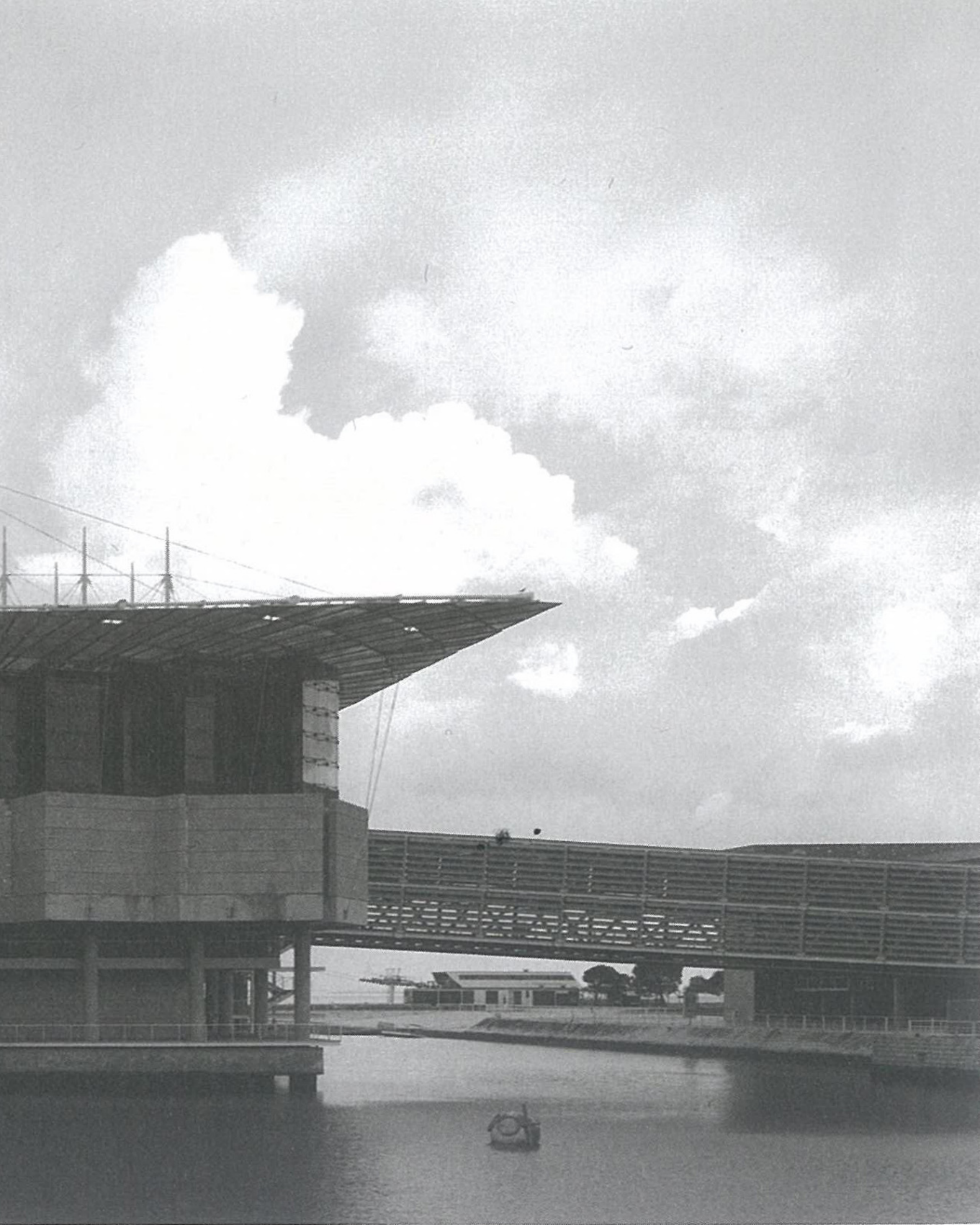
LIGHT

BEST HOUSE

BEST HOUSE
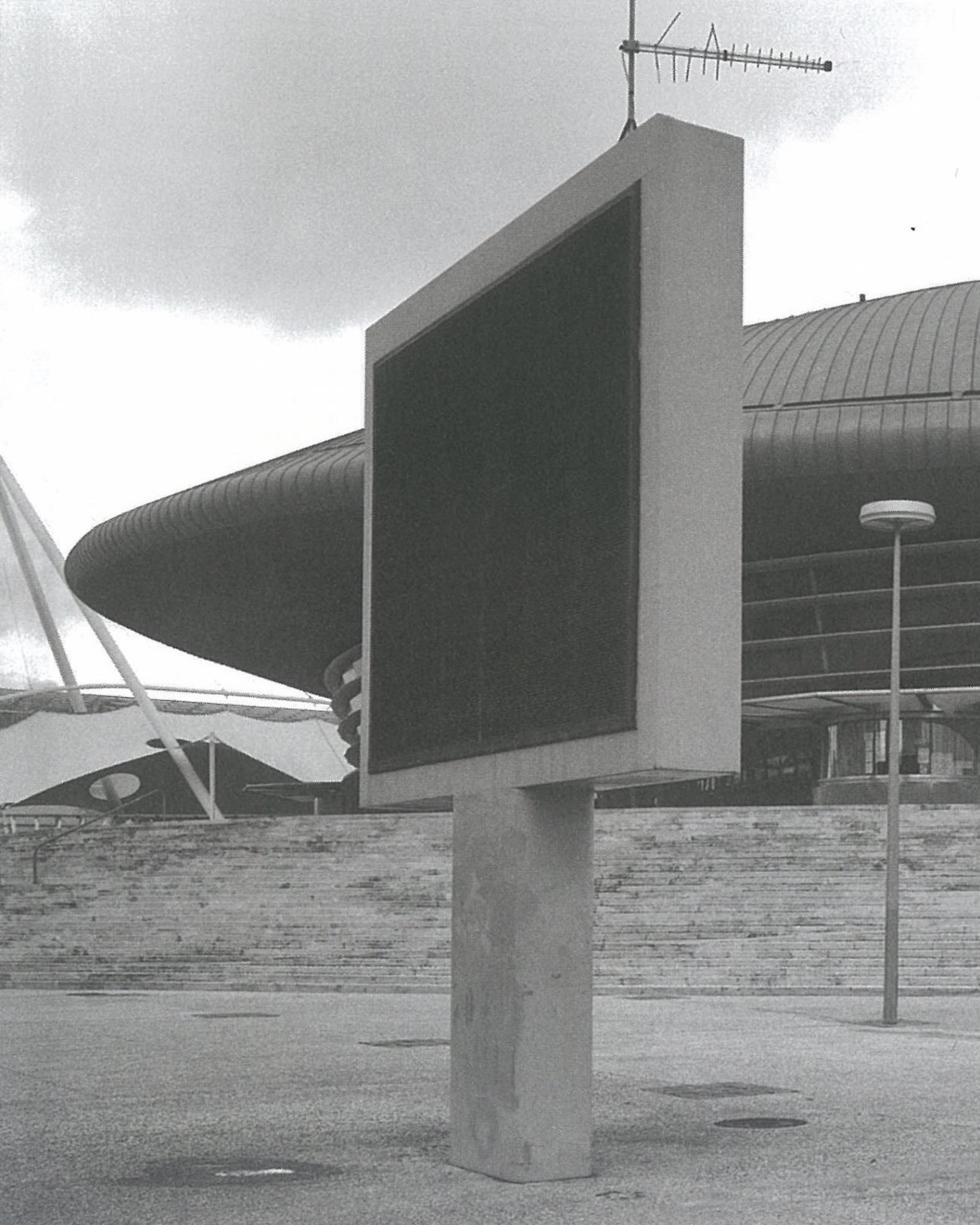
HANNOVER 2000 - MANKIND, NATURE, TECHNOLOGY

- report from EXPO*DOPO*EXPO -

The first International Exposition hosted in Germany coincides with the first concession by BIE for reusing some existing structures in prepearing the exhibition.

However neither the ten-years anniversary after the Germany reunited, nor the new millennium coming will bring luck to the Expo, shutting the fair up with a number of visitors much lower than the 40 million ones expected and with a heavy deficit (€ 1.2 billion).

The Expo plan is set on the main concept to use the grounds of the already existing Fair built in 1947 (100 ha), integrating them in a new enclosure having a further 70 ha area.

By the competition won by Arnaboldi/Cavadini (Locarno) in 1992 nothing of the project is nearly maintained, and in 1994 a new company gives the General Urban Town Plan to a team formed by the same swiss architects together with a landscape designer, Kienast, and Albert Speer, who is the real author of the definitive Expo settlement.

Splitting in two parts by the presence of a motorway, the new Expo is connected to the old Fair through a big bridge. The grounds of the existing Fair are settled according a perpendicular grid system where two new blocks for pavilions are displaced; maintaining this rigid-grid scheeme also the new national pavilions area is designed, and at the end of this a monumental Expo Plaza near the big bridge is built. The logistic and infrastructural functions of the Expo is perfect: a new interurban train links the city and the Expo area, while an intercity train station connect this urban part in a wide territorial way; the motorway is enlarged to three lanes, and small yellow taxi-cars guarantee the internal connections; a 30 meters high cable railway crosses panoramically over the whole area in a diagonal direction. Anyway the whole installation is too bound to a entertainment-fair-concept oriented to move on the visitors' fancy.

The Expo save itself from the oblivion thanks to three brand architectures: the Netherlands Pavilion by MVRDV, that is 40 meters high, five levels stored which each of them is referred to netherland landscapes; the Switzerland Pavilion by Peter Zumthor that is likewise a filtering and osmotic harmonic box, very fascinating; finally the Japan Pavilion by Shigery Ban, a big curved shell made of 440 and 20 meters long cardboard pipes in order to cover a 2500 sqm hall.

4143988
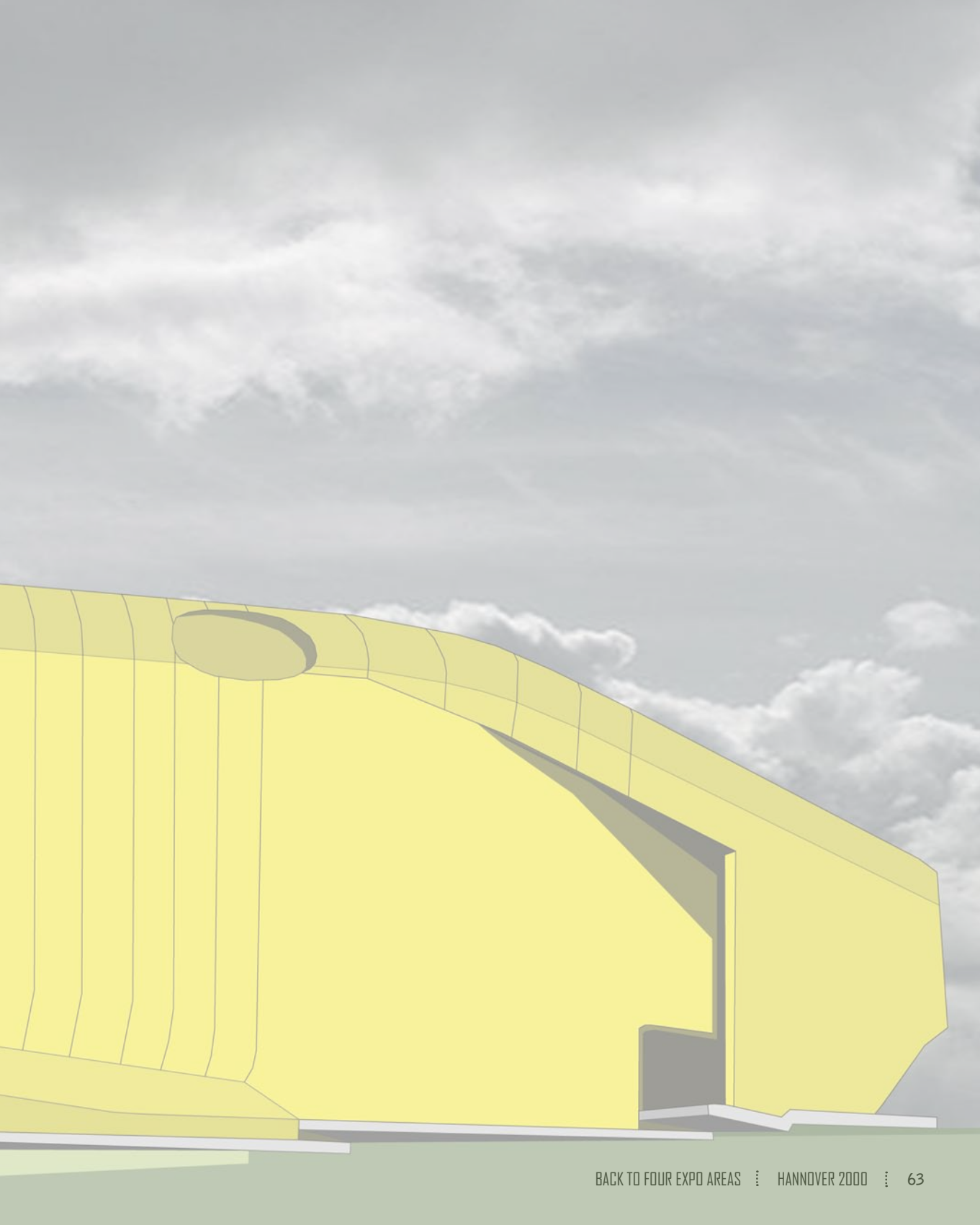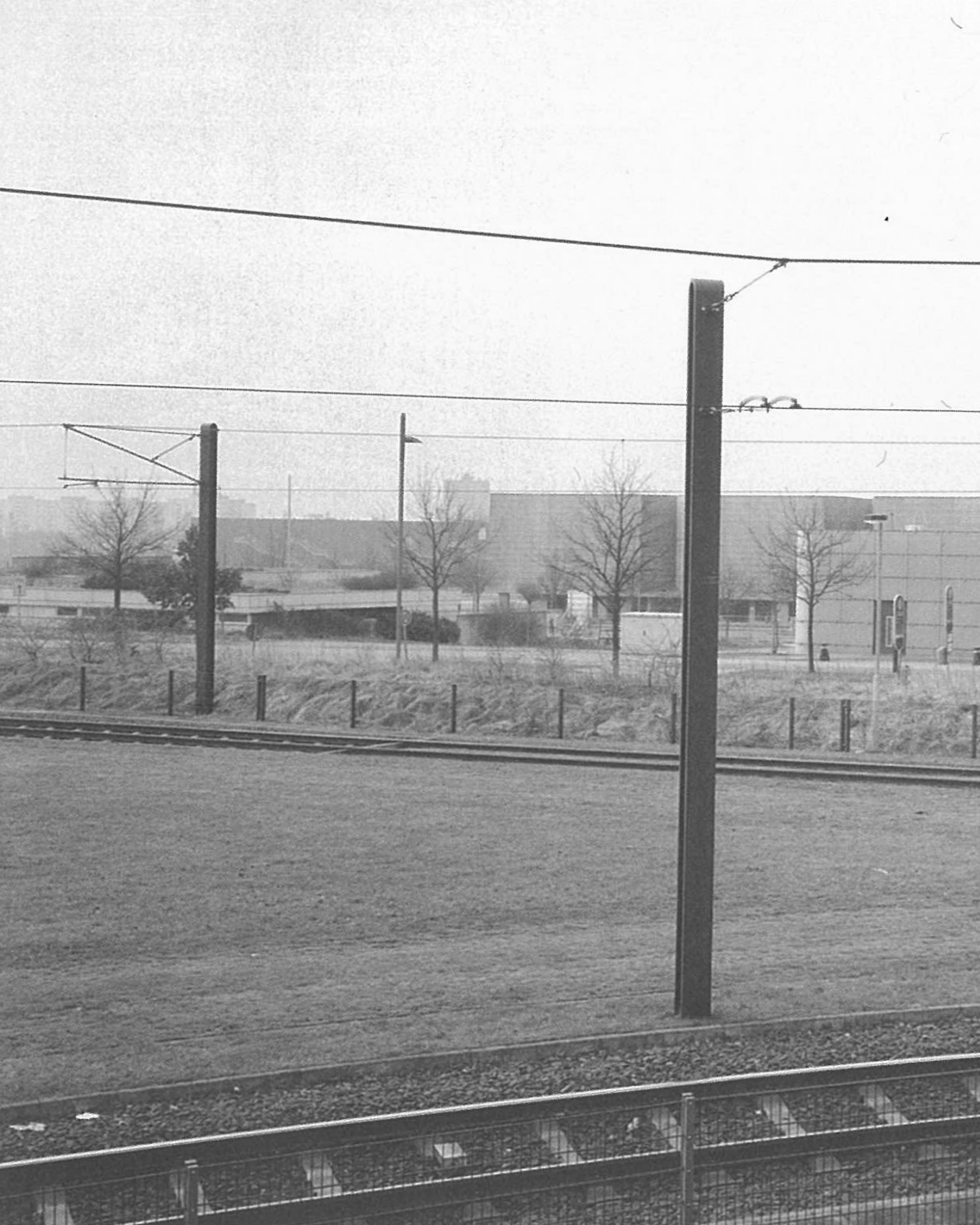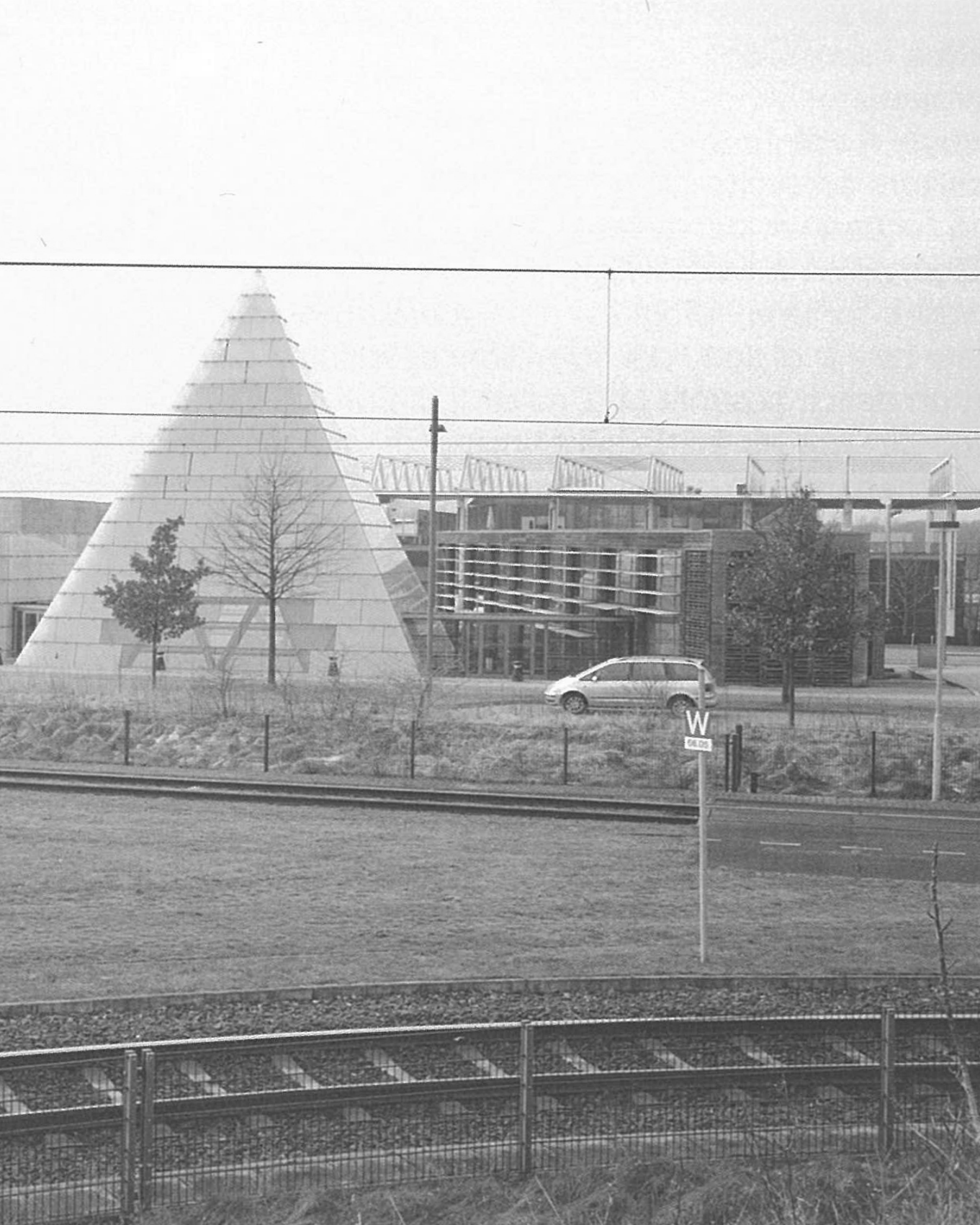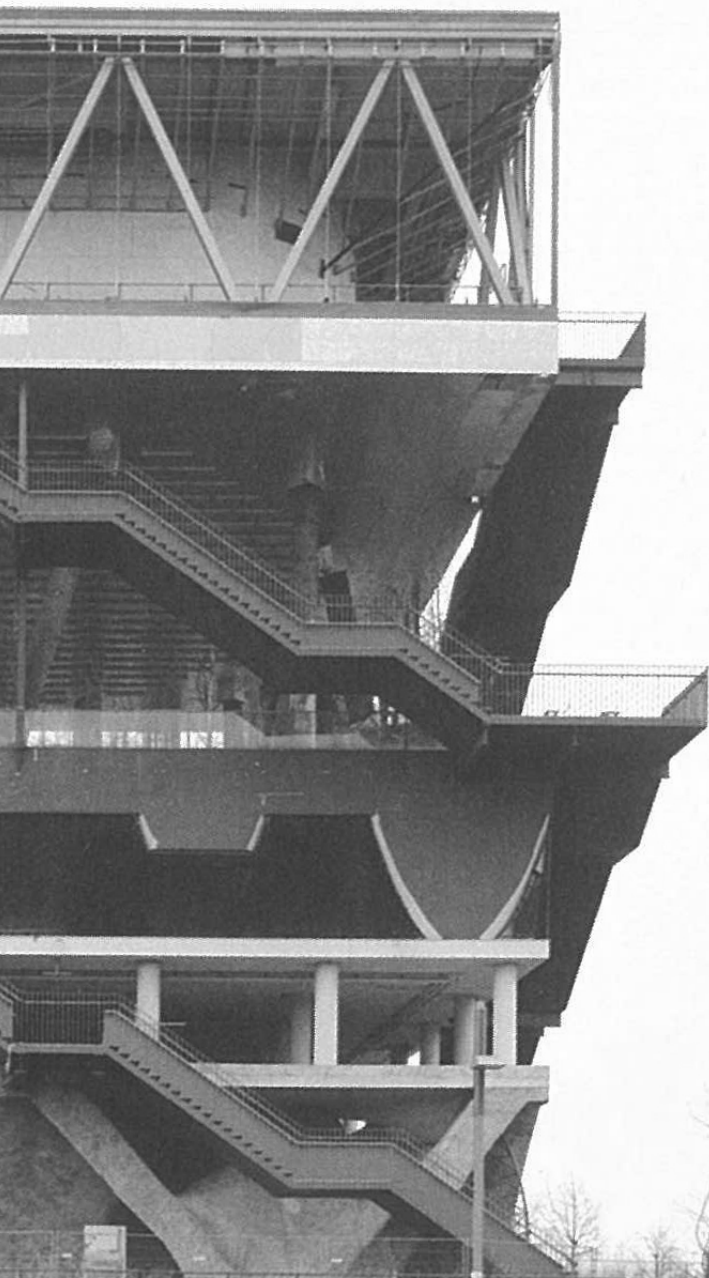
ZARAGOZA 2008 - WATER AND SUSTAINABLE DEVELOPMENT

- report from EXPO*DOPO*EXPO -

The recentest Expo achieved also the lowest level as number of visitors comparing to the previous Expo events.

It took place in a rough and pretty deserted area on the Ebro river, linked to the city centre trough the bridge-pavilion by Zaha Hadid. The bridge-pavilion actually connects the train station to the Expo entrance and it is one of the symbol of the event together with the Tower of Water that is high 73 meters.

Even if the traditional Expo concept is still preserved, this exhibition represents a rare demonstration that the main Expo theme wasn't just a pretext but conditioned the masterplan; moreover during the event there were a series of meetings about the water resources problem in the world.

Since the high temperatures in the city during the summer, the Expo was visited especially in the night when shows, concerts and events were performed. In the end, the 60% of the visitors is from Zaragoza, the 30% from the rest of Spain, and only the 10% represents the numer of visitors out of Spain. (Just the 50% of the whole visitors resulted paying for the Expo).

The Seville model about set the Expo in a empty area near to the city centre seems to have reach with the Zaragoza experience an end point; also the hypotesis of creating an Incubator zone to reuse after the Expo by some companies seems to not have achieved a big success, since just the 50% of the whole Expo area is been sold until today. Because of this inactivity of the area and for the huge budget invested in this exhibition, the mayor of the city has proposed to use the Expo ground for an international flowers fair in 2014.
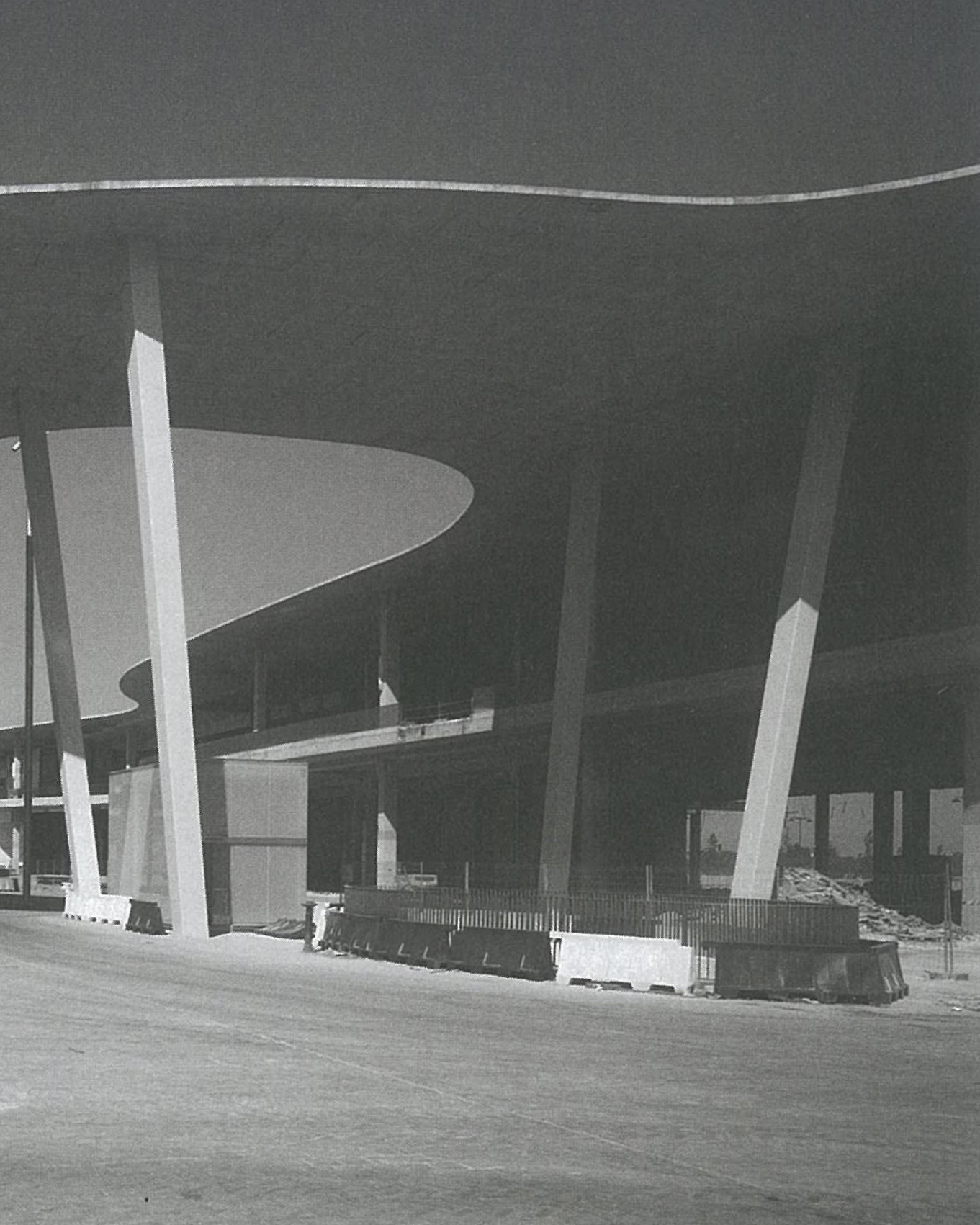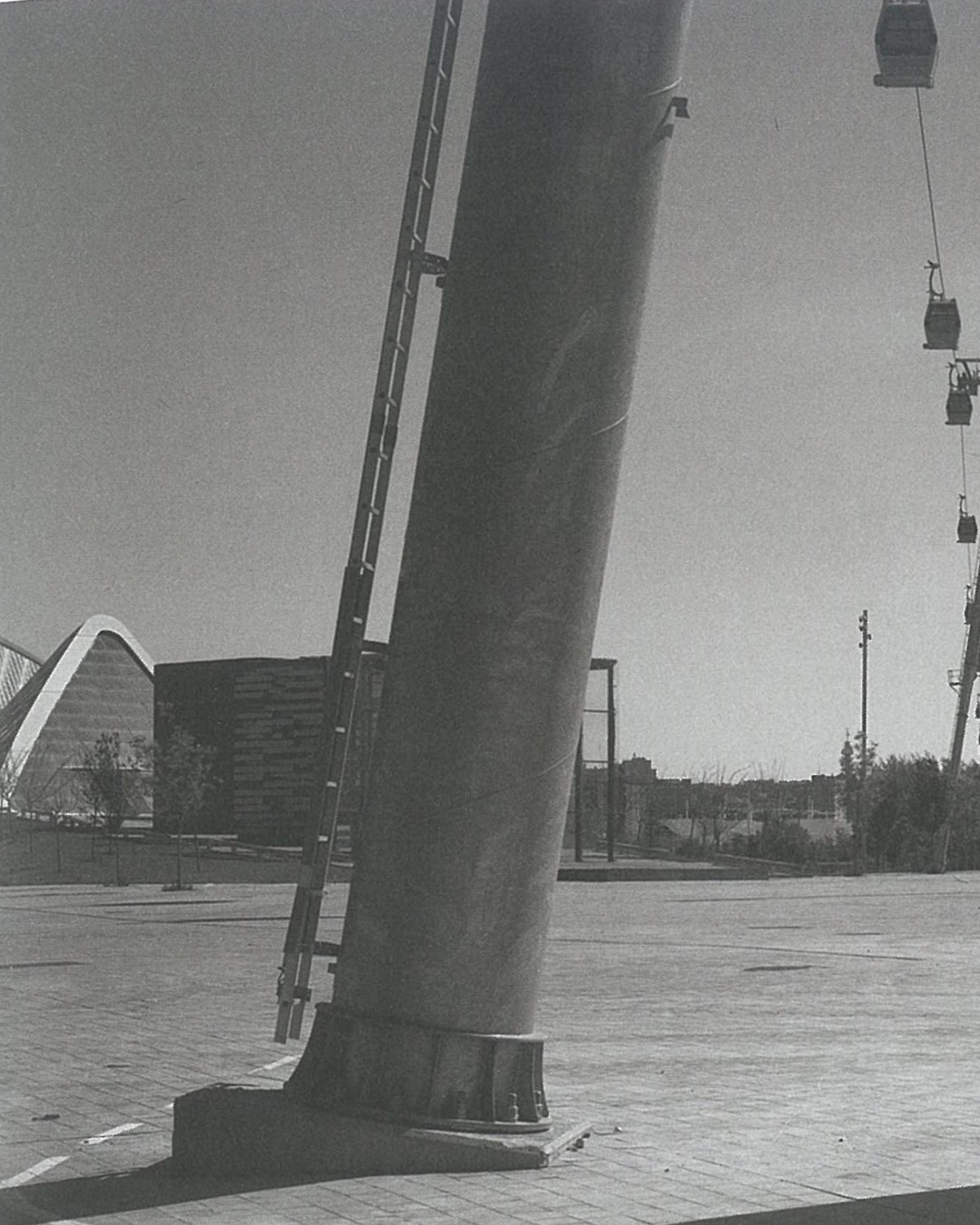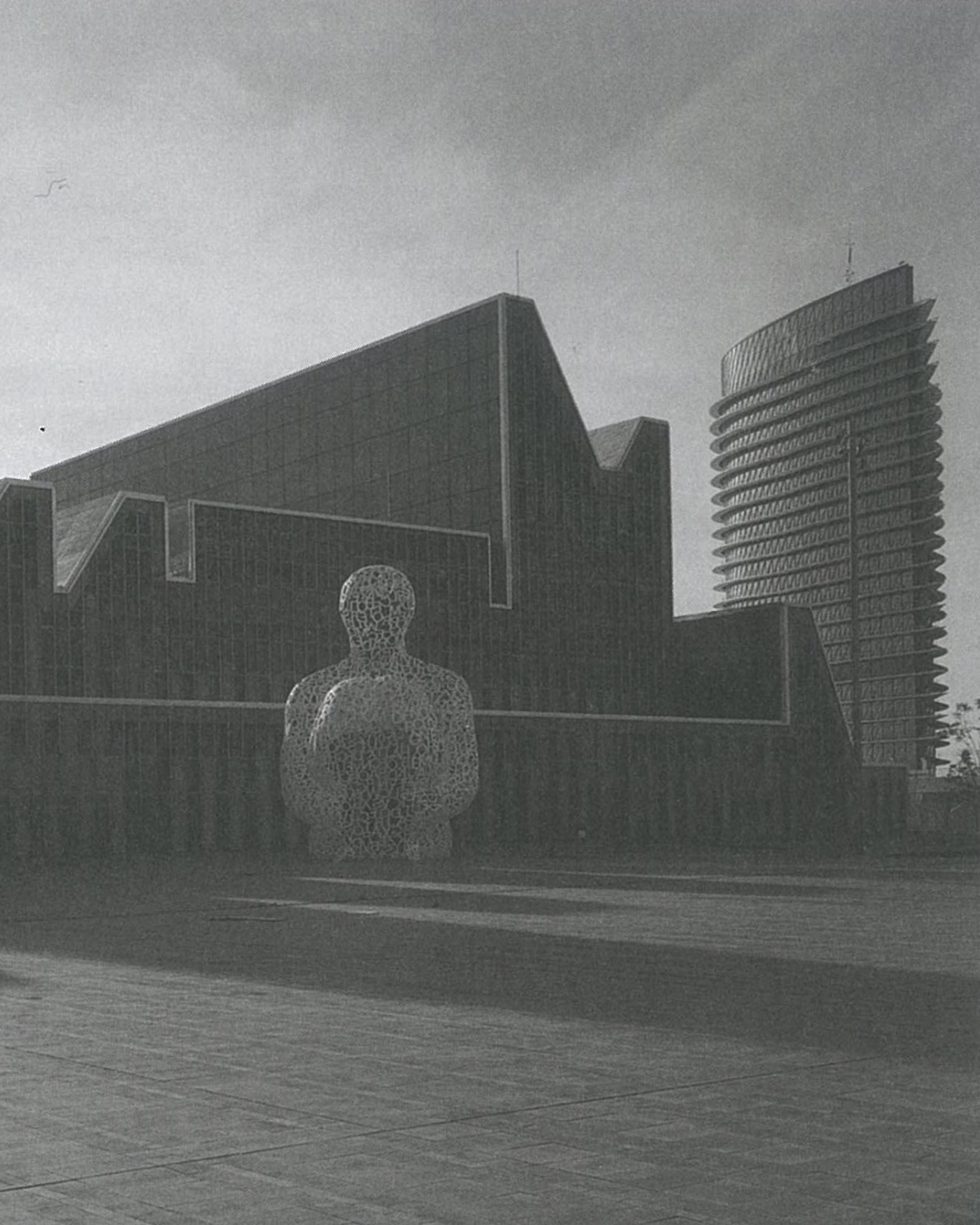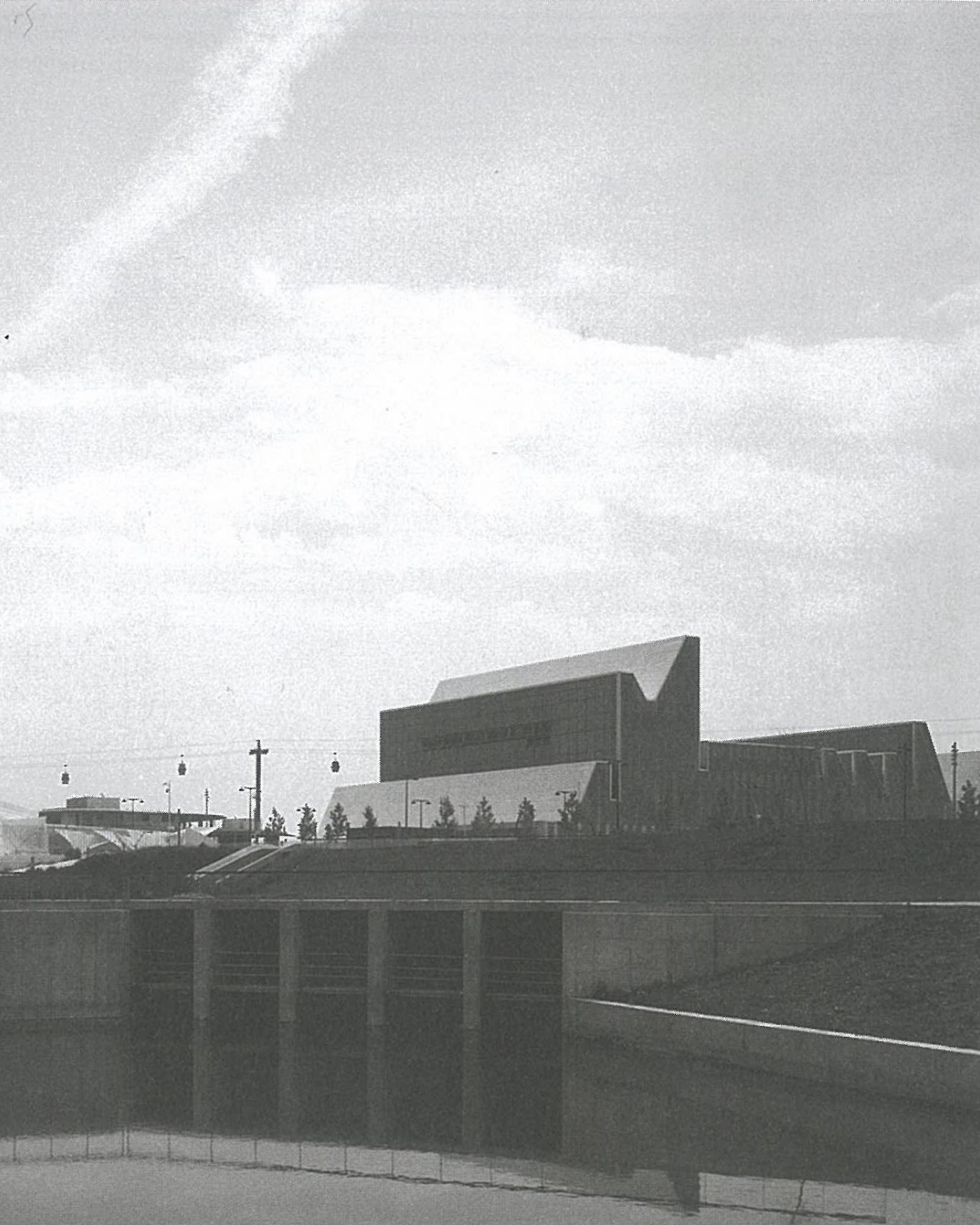
MAP OF THE PARTICIPATING COUNTRIES

111 COUNTRIES
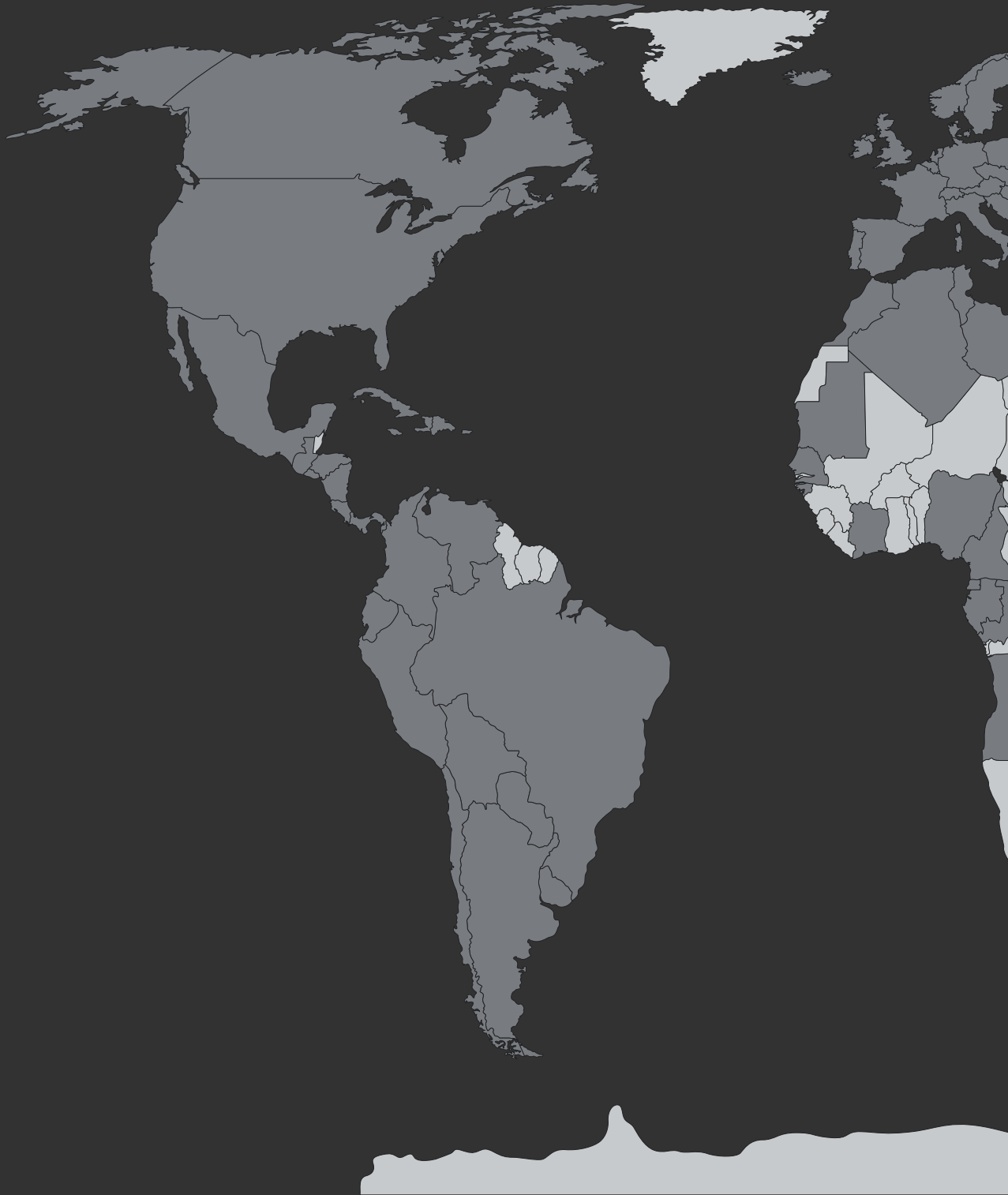
EUROPE
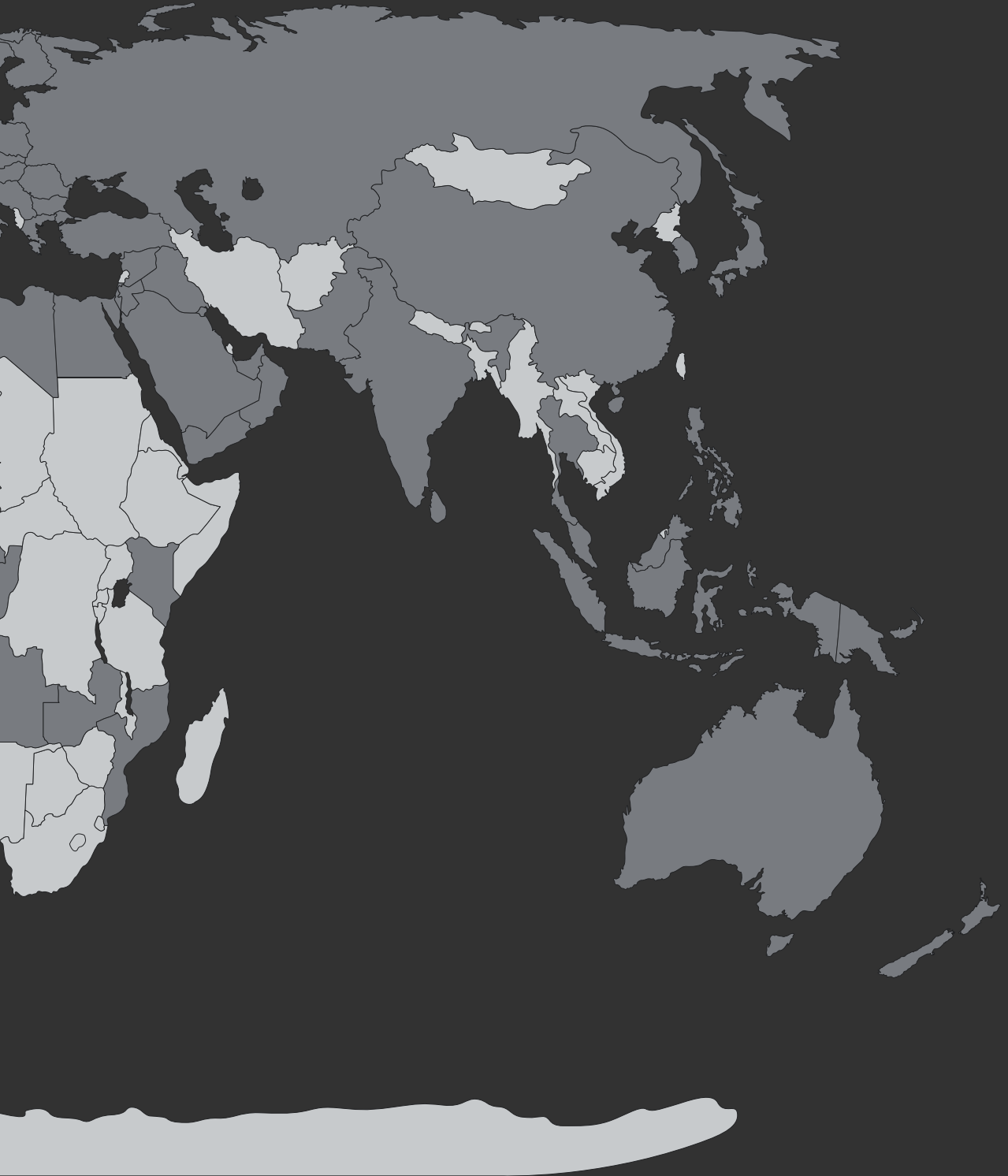
Andorra Austria Belgium Bulgaria Cyprum Czechoslovakia

Denmark Finland France Germany Great Britain Greece

Hungary Ireland Iceland Italy Jugoslavia Luxembourg Malta

Monaco Norway Poland Portugal Romania Spain Sweden

Switzerland The Netherlands Turkey URSS Vatican City

AFRICA

Algeria Angola Cameroun Cape Vert Congo Ivory Coast Egypt

Equatorial Guinea Gabon Guinea Bissau Kenya Lybia Mauritania

Morocco Mozambique Nigeria Sao Tome and Principe Senegal

Tunisia Zambia

NORTH AMERICA

Canada U.S.A.

LATIN AMERICA

Antigua and Barbuda Argentina Bahamas Bolivia Brasil Chile

Colombia Costa Rica Cuba Dominica Dominican Republic Equador

Grenada Guatemala Haiti Honduras Jamaica Mexico Montserrat

🇳🇮 Nicaragua 🇵🇦 Panama 🇵🇾 Paraguay 🇵🇪 Perù 🇵🇷 Porto Rico 🇰🇳 S. Christopher and Nevis

🇻🇨 S. Vincent and Little Grenades 🇱🇨 Saint Lucia 🇸🇻 Salvador 🇹🇹 Trinidad and Tobago

🇺🇾 Uruguay 🇻🇪 Venezuela

ASIA

🇾🇪 Arabic Yemen Republic 🇨🇳 China 🇮🇳 India 🇮🇩 Indonesia 🇮🇶 Iraq 🇮🇱 Israel 🇯🇵 Japan

🇯🇴 Jordania 🇰🇼 Kuwait 🇲🇾 Malaysia 🇴🇲 Oman 🇵🇰 Pakistan 🇵🇭 Philippines 🇸🇦 Saudi Arabia

🇰🇷 South Korea 🇸🇬 Singapore 🇱🇰 Sri Lanka 🇸🇾 Syria 🇹🇭 Thailand 🇦🇪 United Arabian Emirates

OCEANY

🇦🇺 Australia 🇫🇯 Fiji Islands 🇳🇿 New Zeland 🇵🇬 Papua-New Guinea 🇸🇧 Salomon Islands

🇹🇴 Tonga 🇹🇻 Tuvalu 🇻🇺 Vanatu

MAP OF THE PARTICIPATING COUNTRIES

146 COUNTRIES

EUROPE

Albania Andorra Austria Belarus Belgium Bosnia - Erzegovina

Bulgaria Croatia Cyprum Denmark Esthonia Finland France

Germany Great Britain Greece Hungary Iceland Italy Latvia

Lithuania Luxembourg Macedonia Malta Monaco Norway Poland

Portugal Romania Russia S. Marino Republic Slovakia Republic

Slovenia Spain Sweden Switzerland The Netherlands Ukraine

Vatican City

AFRICA

Algeria Angola Benin Botswana Cape Vert Comore Congo

Djibouti Egypt Eritrea Guinea Bissau Ivory Coast Kenya Lesotho

Madagascar Malawi Mali Mauritania Morocco Mozambique

Namibia Nigeria Sao Tome and Principe Senegal Seychelles

South Africa Sudan Swaziland Tanzania Uganda Zambia

Zimbabwe

NORTH AMERICA

Canada U.S.A.

LATIN AMERICA

Antigua and Barbuda Argentina Bahamas Barbados Belize Bolivia

Brasil Chile Colombia Cuba Dominica Dominican Republic

El Salvador Equador Grenada Guatemala Guyana Honduras

Jamaica Mexico Nicaragua Panama Paraguay Perù Saint Lucia

S. Vincent and Little Grenades S. Christopher and Nevis Suriname

Trinidad and Tobago Uruguay Venezuela

ASIA

Arabic Yemen Republic Armenia Bangladesh China India Iran

Israel Japan Jordania Kazhakstan Kuwait Kirghizistan Liban

Mongolia Nepal Palestine Pakistan Philippines Saudi Arabia

South Korea Sri Lanka Turkey United Arabian Emirates Vietnam

OCEANY

Cook Islands Kiribati Micronesia Papua-New Guinea Samoa

Salomon Islands Tonga Tuvalu

MAP OF THE PARTICIPATING COUNTRIES

155 COUNTRIES

EUROPE

Albania Andorra Austria Belarus Belgium Bosnia - Erzegovina

Bulgaria Croatia Cyprum Czech Republic Denmark Esthonia

Finland France Georgia Germany Great Britain Greece Hungary

Iceland Ireland Italy Latvia Liechtenstein Lithuania Luxembourg

Macedonia Malta Moldova Monaco Norway Poland Portugal

Romania Russia Slovakia Republic Slovenia Spain Sweden

Switzerland The Netherlands Turkey Ukraine

AFRICA

Angola Benin Botswana Burkina Faso Burundi Cameroun Cape Vert

Central African Republic Chad Congo Djibouti Eritrea Ethiopia

Gabon Gambia Ghana Guinea Guinea Bissau Kenya Lesotho

Libya Madagascar Malawi Mali Mauritania Mauritius Morocco

Mozambique Namibia Niger Nigeria Rwanda Sao Tome and Principe

Senegal Seychelles South Africa Sudan Swaziland Tanzania

Togo Tunisia Uganda Zambia Zimbabwe

NORTH AMERICA

🇨🇦 Canada

LATIN AMERICA

🇦🇷 Argentina 🇧🇧 Barbados 🇧🇴 Bolivia 🇧🇷 Brasil 🇨🇴 Colombia 🇨🇷 Costa Rica 🇨🇺 Cuba

🇩🇲 Dominica 🇩🇴 Dominican Republic 🇸🇻 El Salvador 🇪🇨 Equador 🇬🇩 Grenada 🇬🇹 Guatemala

🇬🇾 Guyana 🇭🇹 Haiti 🇭🇳 Honduras 🇯🇲 Jamaica 🇲🇽 Mexico 🇳🇮 Nicaragua 🇵🇦 Panama

🇵🇾 Paraguay 🇻🇨 S. Vincent and Little Grenades 🇹🇹 Trinidad and Tobago 🇻🇪 Venezuela

ASIA

🇦🇿 Adzerbajan 🇾🇪 Arabic Yemen Republic 🇦🇲 Armenia 🇧🇩 Bangladesh 🇧🇹 Bhutan 🇧🇳 Brunei

🇰🇭 Cambodia 🇨🇳 China 🇮🇳 India 🇮🇩 Indonesia 🇮🇷 Iran 🇮🇱 Israel 🇯🇵 Japan 🇯🇴 Jordania

🇰🇬 Kirghizistan 🇱🇦 Laos 🇲🇾 Malaysia 🇲🇳 Mongolia 🇳🇵 Nepal 🇵🇰 Pakistan 🇵🇸 Palestine

🇵🇭 Philippines 🇸🇬 Singapore 🇰🇷 South Korea 🇱🇰 Sri Lanka 🇸🇾 Syria 🇹🇯 Tajikistan

🇹🇭 Thajland 🇦🇪 United Arabian Emirates 🇺🇿 Uzbekistan 🇻🇳 Vietnam

OCEANY

🇦🇺 Australia 🇰🇮 Kiribati 🇵🇬 Papua-New Guinea 🇸🇧 Salomon Islands 🇼🇸 Samoa

🇹🇻 Tuvalu 🇻🇺 Vanatu

MAP OF THE PARTICIPATING COUNTRIES
106 COUNTRIES
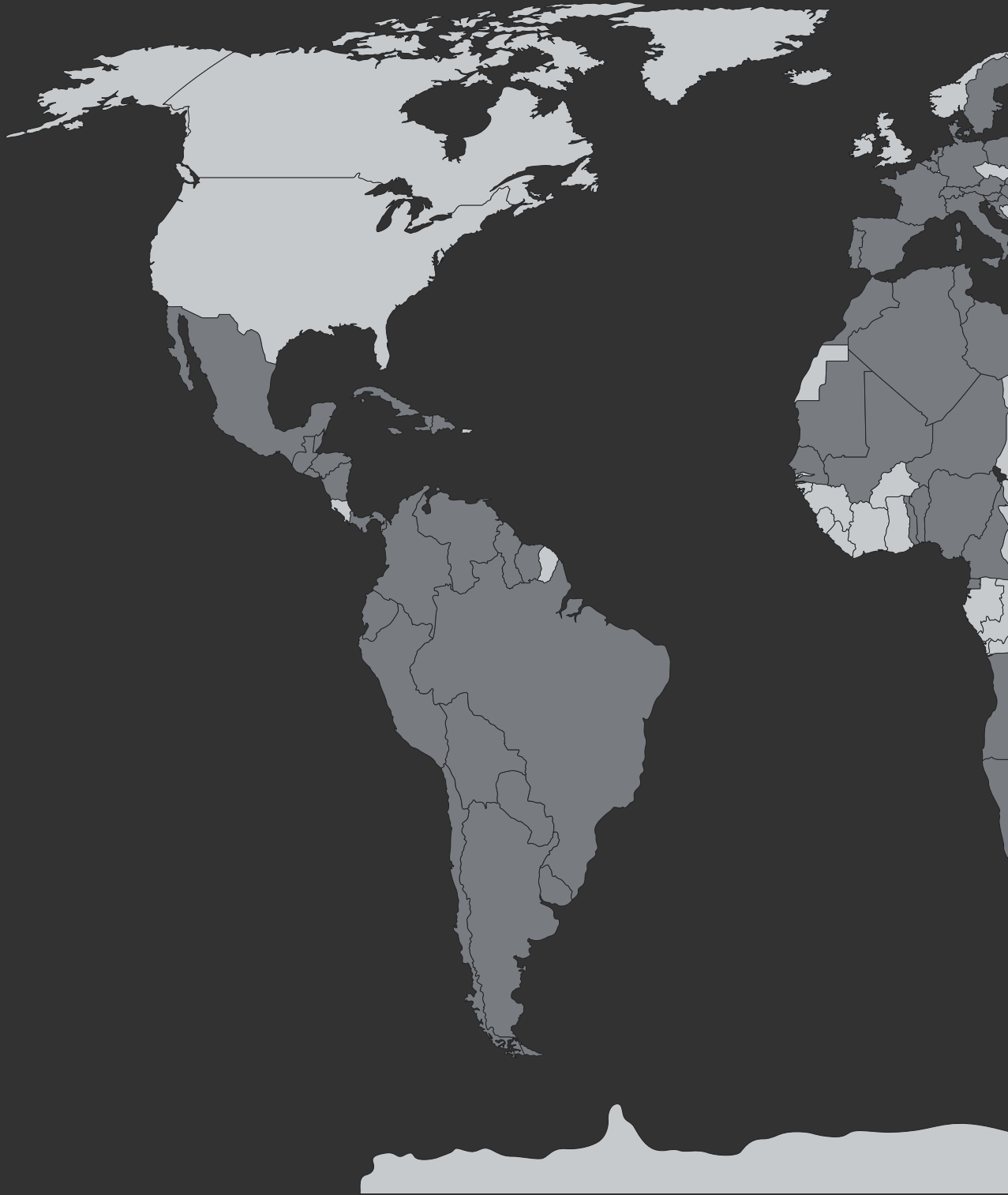
EUROPE
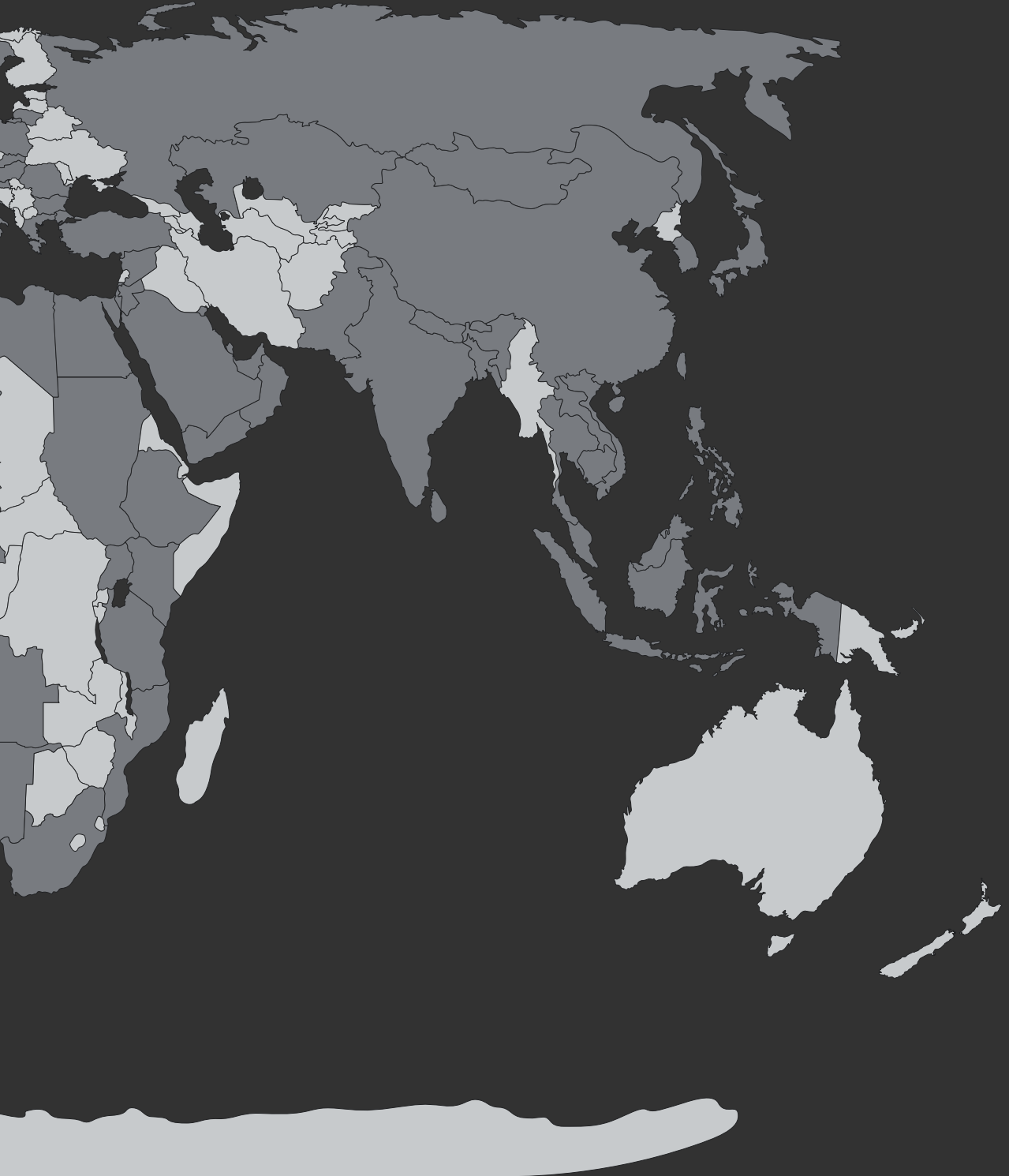
Andorra Austria Belgium Bulgaria Croatia Cyprum Denmark

France Germany Greece Malta Monaco Italy Lithuania

Poland Portugal Romania Russia Slovakia Republic Slovenia

Spain Sweden Switzerland The Netherlands Vatican City

AFRICA

Algeria Angola Cameroun Cape Vert Egypt Ethiopia

Equatorial Guinea Kenya Libya Mali Mauritania Morocco

Mozambique Namibia Niger Nigeria Senegal South Africa

Sudan Tanzania Tunisia Uganda

LATIN AMERICA

Antigua and Barbuda Argentina Bahamas Barbados Belize Bolivia

Brasil Chile Colombia Cuba Dominica Dominican Republic

El Salvador Equador Grenada Guatemala Guyana Haiti

Honduras Jamaica Mexico Nicaragua Panama Paraguay Perù

S. Christopher and Nevis Saint Lucia S. Vincent and Little Grenades Suriname

Trinidad and Tobago Uruguay Venezuela

ASIA

Arabic Yemen Republic China Japan Jordania Kazhakstan India

Indonesia Malaysia Mongolia Nepal Oman Palestine Pakistan

Philippines Qatar Saudi Arabia South Korea Syria Thajland

Timor Est Turkey United Arabian Emirates Vietnam

OCEANY

Palau Salomon Islands Tonga Vanatu

EXPO CASE STUDIES IN DIAGRAMS

EXPO MASTERPLAN - 1992

N

0 m
100 m
200 m
300 m
400 m
500 m

EXPO SEVILLE 1992

LOCATION
Seville, Isla de la Cartuja on Guadalquivir River, 800 meters far from city centre and linked to the city by bridges

Guadalquivir River

215 ha

EXPO PAVILIONS

EXISTING HISTORICAL ABBEY

GREEN AREAS

1992

EXPO AREA - SEVILLE 1992

CURRENT SITUATION

N

0 m
100 m
200 m
300 m
400 m
500 m

Guadalquivir River

EXPO PAVILIONS REMAINED

EXISTING HISTORICAL ABBEY

GREEN AREAS

18 YEARS LATER

2010

EXPO AREA - SEVILLE 2010

EXPO MASTERPLAN - 1998

0 m   100 m   200 m   300 m   400 m   500 m   — N
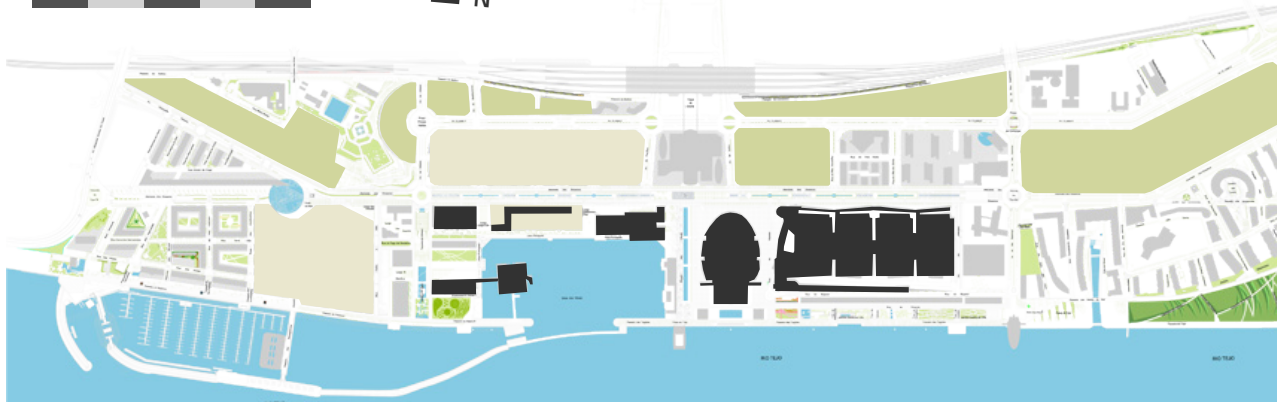
| | COMPANY OFFICES / TERZIARY STRUCTURES | | REPRESENTATIVE EXPO PAVILIONS | | GROUNDS FOR TEMPORARY PAVILIONS |

CURRENT SITUATION

0 m   100 m   200 m   300 m   400 m   500 m   — N
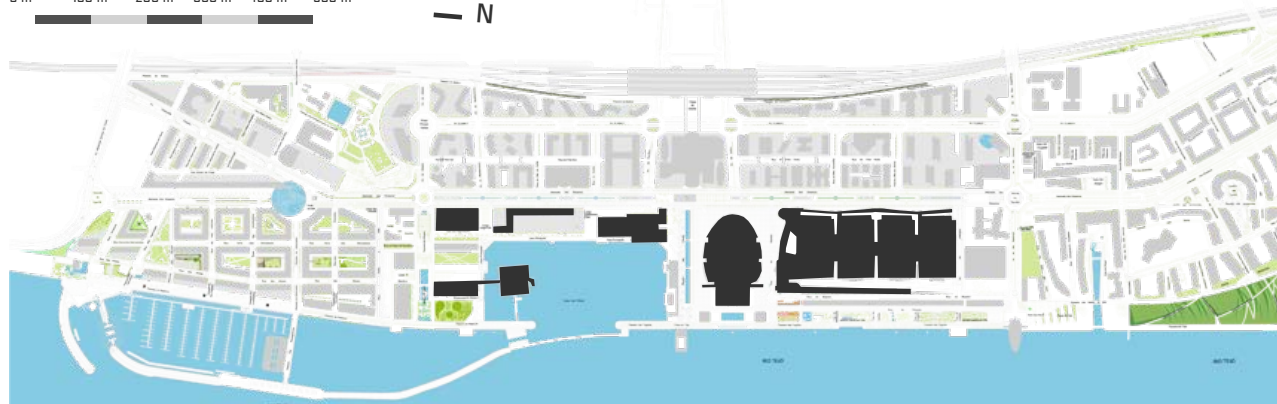
| | COMPANY OFFICES AND NEW RESIDENTIAL BLOCKS | | REPRESENTATIVE EXPO PAVILIONS USED AS MUSEUM/AQUARIUM STRUCTURES |

1998

EXPO AREA - LISBON 1998

PARKING CARS AREAS   GREEN AREAS

EXPO LISBON 1998

LOCATION
Lisbon, the chosen Expo area is an industrial abandoned ground to recover; it is a 340 hectares area and extended for 5 km, located on the bank of the River Tagus, along the Atlantic Ocean waterfront. The area is in the northern-east part of the city plan, linked to downtown through a train-station.

GREEN AREAS - CURRENT PARQUE DE NAÇOES

350 ha

12 YEARS LATER   2010

EXPO AREA - LISBON 2010

EXPO MASTERPLAN - 2000

N

0 m 100 m 200 m 300 m 400 m

EXPO GROUNDS - FAIR AND TEMPORARY PAVILIONS

EXPO GROUNDS - FAIR AND TEMPORARY PAVILIONS

GREEN AREAS - EXPO PARK

P PARKING AREAS

160 ha

EXPO HANNOVER 2000

LOCATION
Hannover, the chosen Expo area is near the existing Hannover Fair 100 ha wide and incremented with other 60 ha to host pavilions of participating countries. The area is located in south-east part of the city, near the suburban towns of Laatzen and it is well linked by public transport (urban train) to the centre city and the airpot (that is in the north part) of Hannover.

2000

EXPO AREA - HANNOVER 2000

CURRENT SITUATION

0 m   100 m   200 m   300 m   400 m

EXPO GROUNDS - FAIR AND BUILDINGS REUSED AS OFFICES AND TERZIARY FUNCTION

EXPO GROUNDS - PAVILIONS NOT DISMANTLED

GREEN AREAS - EXPO PARK

BUILDINGS AFTER THE EXPO 2000 FOR COMMERCIAL USE

P   PARKING AREAS
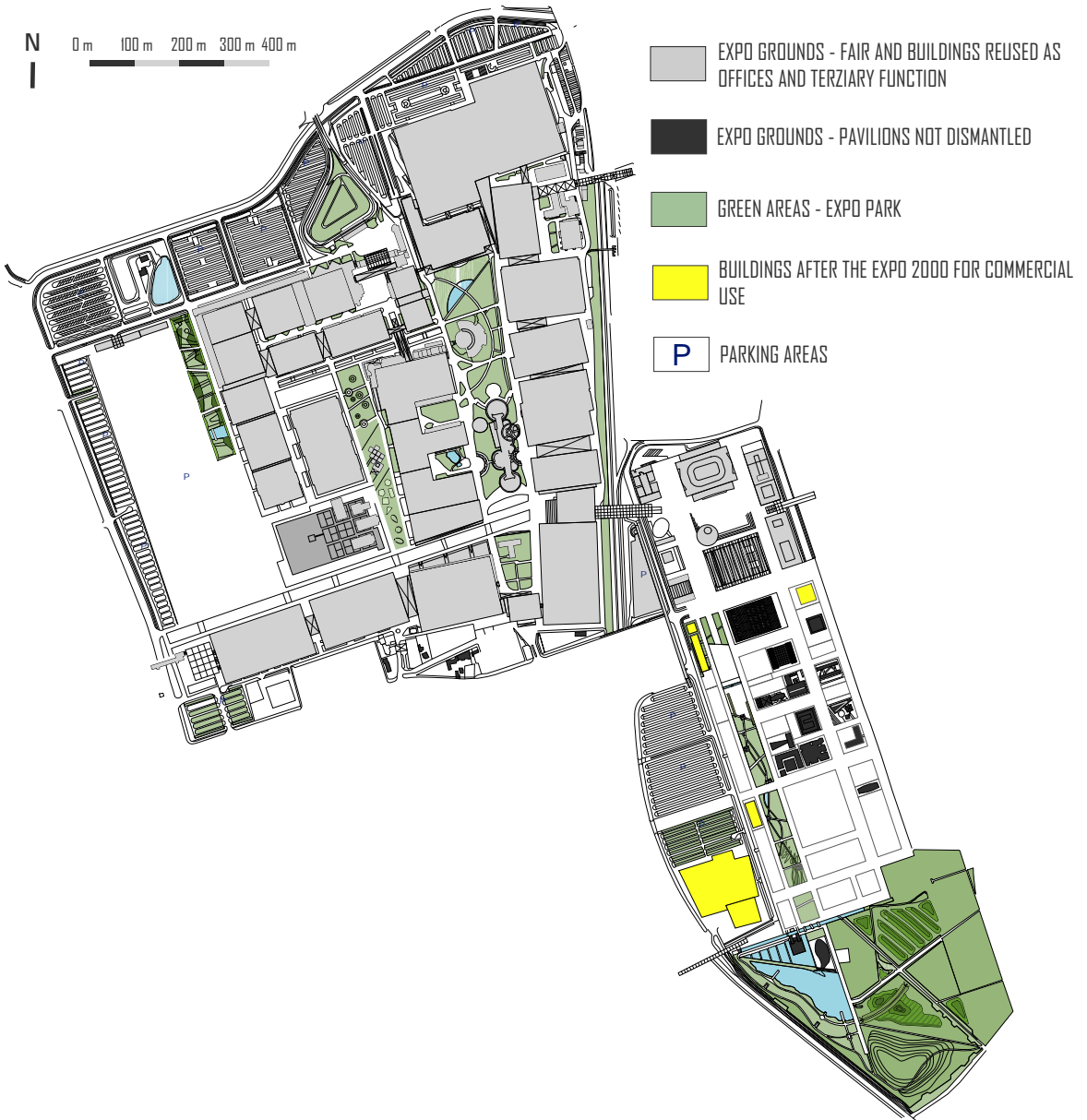
10 YEARS LATER

2010

EXPO AREA - HANNOVER 2010

EXPO MASTERPLAN - 2008

LOCATION
Zaragoza, the chosen Expo area is in a north-west area from the city centre, on the Ebro river. It is 150 ha wide and it consists in a park - green area and the Expo area with thematic and participating pavilions.

EXPO ZARAGOZA 2008

- EXPO GROUNDS - PARTICIPATING COUNTRIES PAVILIONS
- EXPO GROUNDS - THEMATIC PAVILIONS
- CONGRESS PALACE
- AQUARIUM
- ANFITHEATRE
- BRIDGE PAVILION
- WATER TOWER - OFFICES
- GREEN AREA - WATER PARK

150 ha

Ebro River

N

0 m   100 m   200 m   300 m   400 m   500 m
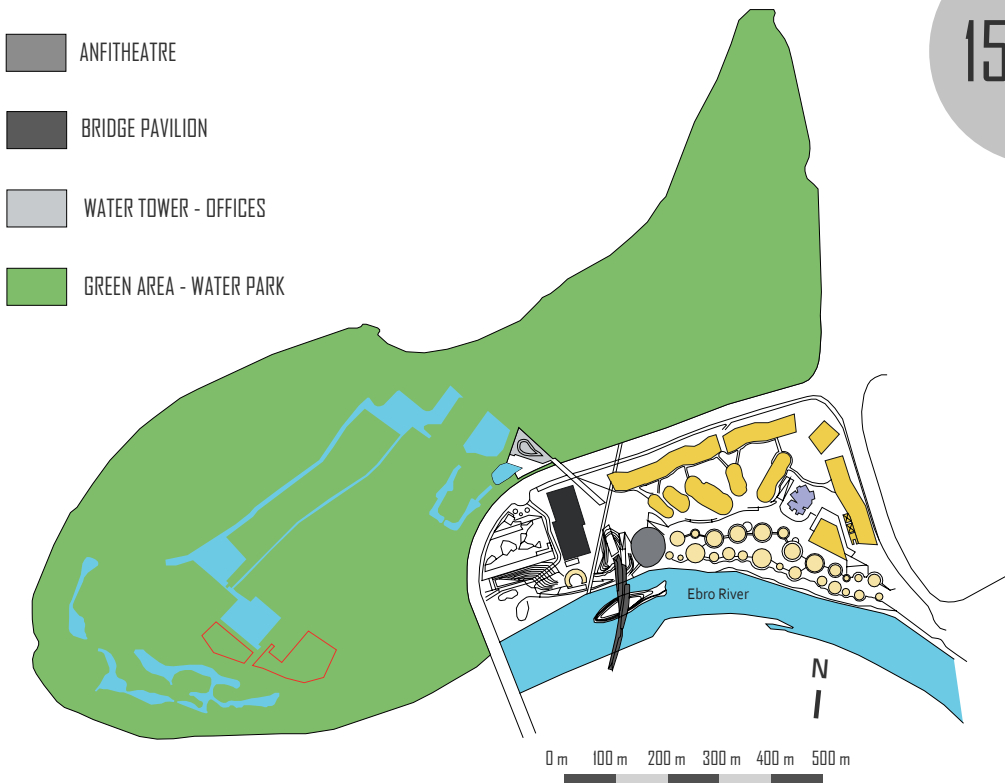
2008

EXPO AREA - ZARAGOZA 2008

EXPO GROUNDS - PARTICIPATING COUNTRIES PAVILIONS

CONGRESS PALACE

AQUARIUM

ANFITHEATRE

BRIDGE PAVILION

WATER TOWER - OFFICES

GREEN AREA - WATER PARK

Ebro River

N

0 m   100 m   200 m   300 m   400 m   500 m

2 YEARS LATER   2010

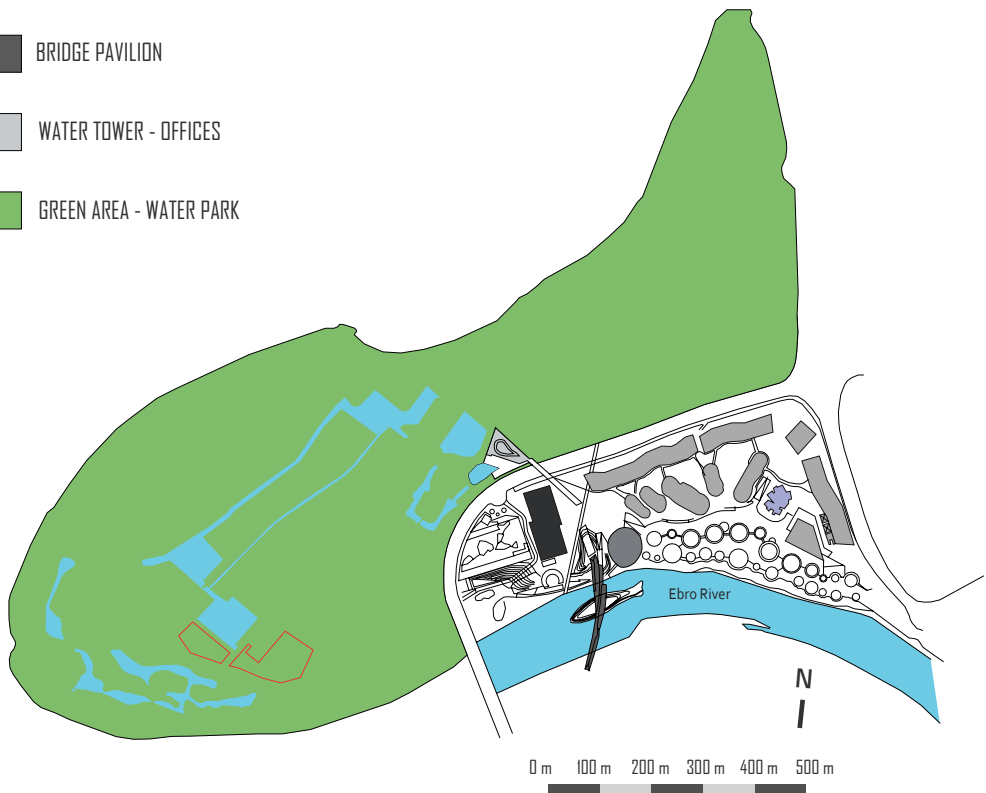EXPO AREA - ZARAGOZA 2010
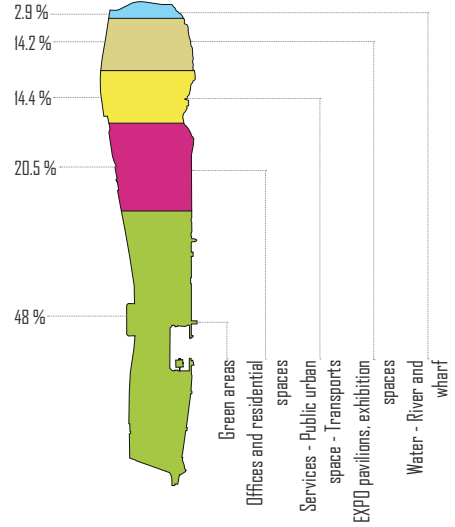
LAND USE DURING AND AFTER THE EXPO

GROUND AREA

EXPO - SEVILLE 1992

EXPO - LISBON 1998

215 ha

350 ha

LAND USE DURING THE EXPO

Seville:
- 5.72 %
- 6.35 %
- 16.76 %
- 22.72 %
- 48.45 %

Services, public spaces, connection, transports

EXPO pavilions, exhibition spaces

Green areas

Water - river, streams and artificial lake

Historical building - Cartuja Abbey

Lisbon:
- 2.9 %
- 14.2 %
- 14.4 %
- 20.5 %
- 48 %

Green areas

Offices and residential spaces

Services - Public urban space - Transports

EXPO pavilions, exhibition spaces

Water - River and wharf

LAND USE AFTER THE EXPO

Seville:
- 5.72 %
- 2.8 %
- 16.76 %
- 74.72 %

Unused area - abandoned structures

Green areas

Water - river, streams and artificial lake

Historical building - Cartuja Abbey

Lisbon:
- 2.9 %
- 27 %
- 30 %
- 40.1 %

Green areas

Services - Public urban space - Transports

Offices and residential spaces

Water - River and wharf

EXPO - HANNOVER 2000

EXPO - ZARAGOZA 2008

160 ha

150 ha

3 %
9 %
12 %
17.25 %
58.75 %

Hannover Fair area and buildings
EXPO pavilions, exhibition spaces
Services - Parking areas - Transports
Green areas
Water - Artificial lakes

0.2 %
1.2 %
3.1 %
3.5 %
19 %
73 %

Park - Green areas
Public area and infrastructures
EXPO pavilions - participating countries
EXPO thematic pavilions
Entertainment, culture
Offices, companies

0.8 %
9 %
14.45 %
17%
58.75 %

Hannover Fair area and buildings
Services - Parking areas - Transports
Unused EXPO grounds, abandoned pavilions
Green areas
Water - Artificial lakes

1.2 %
3.1 %
3.7 %
19 %
73 %

Park - Green areas
Public area and infrastructures
Offices, companies
Unused spaces
Entertainment, culture

**EXPO SEVILLE
1992**

20th APRIL

**EXPO LISBON
1998**

22nd MAY

**EXPO HANNOVER
2000**

1st JUNE

**EXPO ZARAGOZA
2008**

14th JUNE

COMPARING DURATION EVENTS

JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER

176 DAYS

12th OCTOBER

132 DAYS

30th SEPTEMBER

153 DAYS

31st OCTOBER

92 DAYS

14th SEPTEMBER

Bar Chart

Value	
50.000.000	
40.000.000	
30.000.000	
20.000.000	
10.000.000	

SEVILLE

LISBON

1990 1991 1992 1993 1994 1995 1996 1997 1998
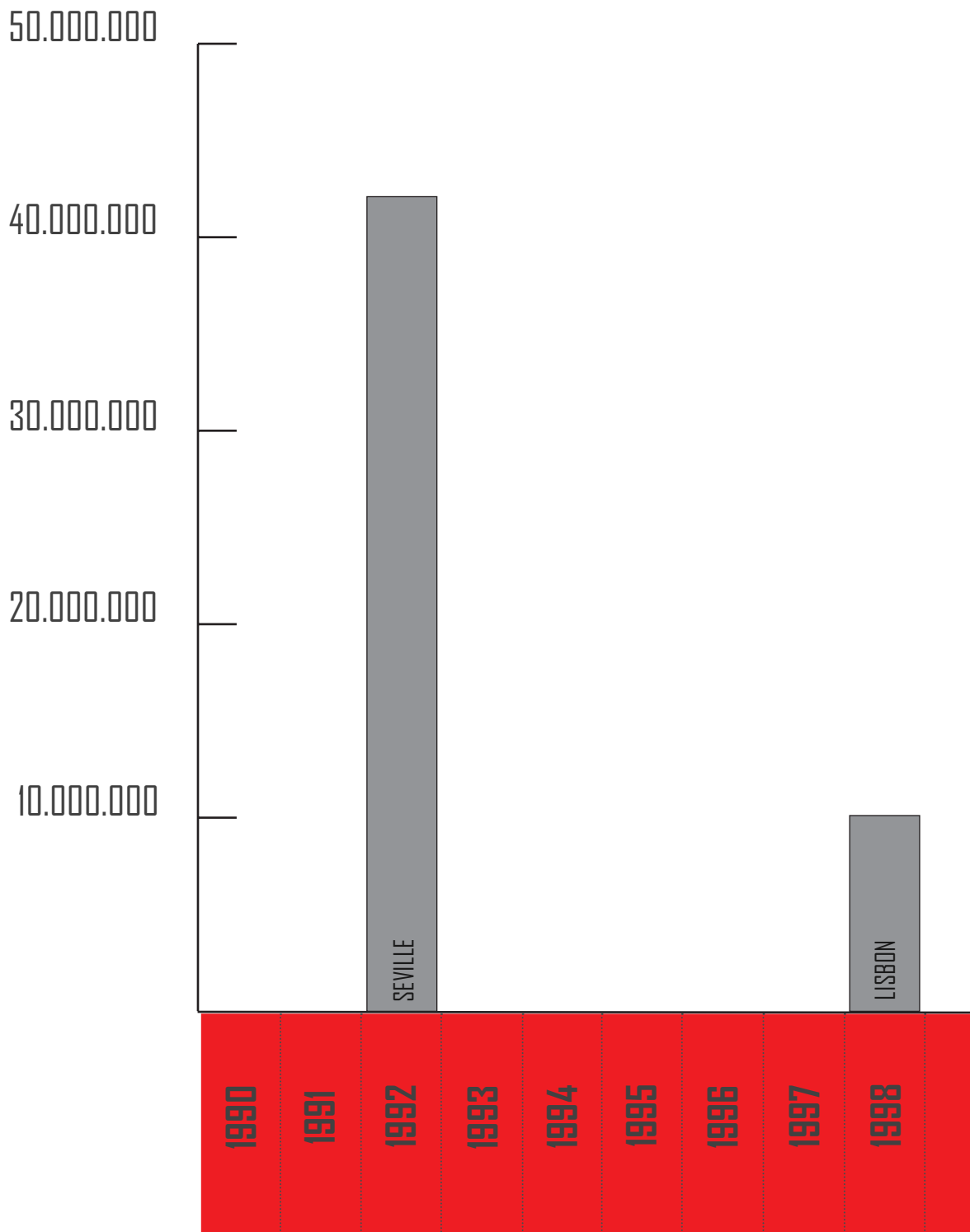
COMPARING TOTAL VISITORS

HANNOVER

ZARAGOZA

1999 2000 2001 2002 2003 2004 2005 2006 2007 2008
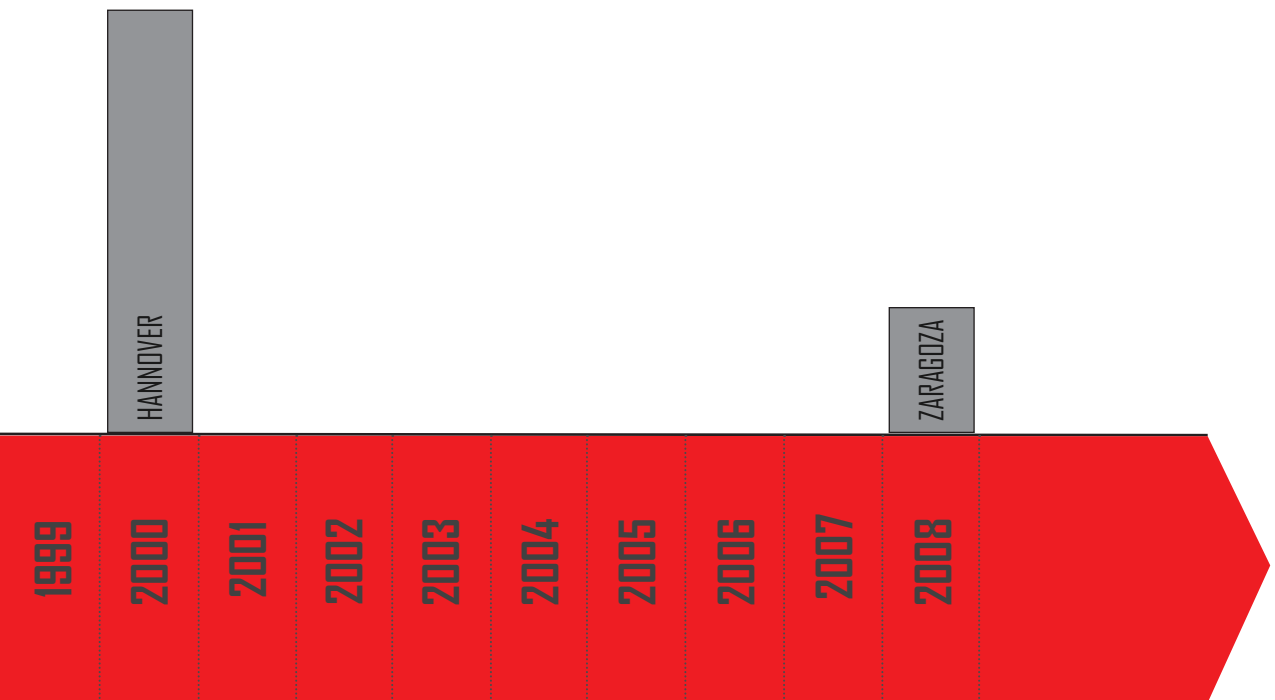
VISITORS

	APRIL	MAY	JUNE	JULY
SEVILLE 1992	2.197.934	5.632.788	5.168.174	5.183.158
LISBON 1998		337.885	1.649.336	1.947.496
HANNOVER 2000			2.321.900	2.819.820
ZARAGOZA 2008			not found in official sources	not found in official sources
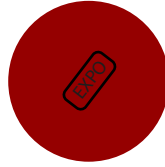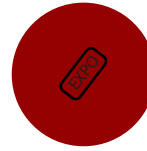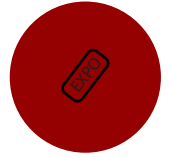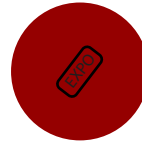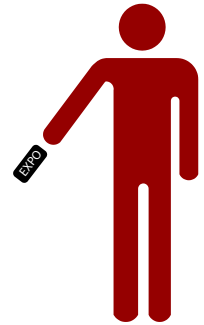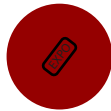
	AUGUST	SEPTEMBER	OCTOBER	TOTAL VISITORS
	8.106.921	10.935.342	4.868.254	**42.092.571**
	2.470.765	3.722.722		**10.128.204**
	3.479.590	3.799.405	5.576.923	**17.997.638**
	not found in official sources	not found in official sources		**5.500.000**
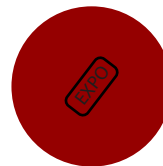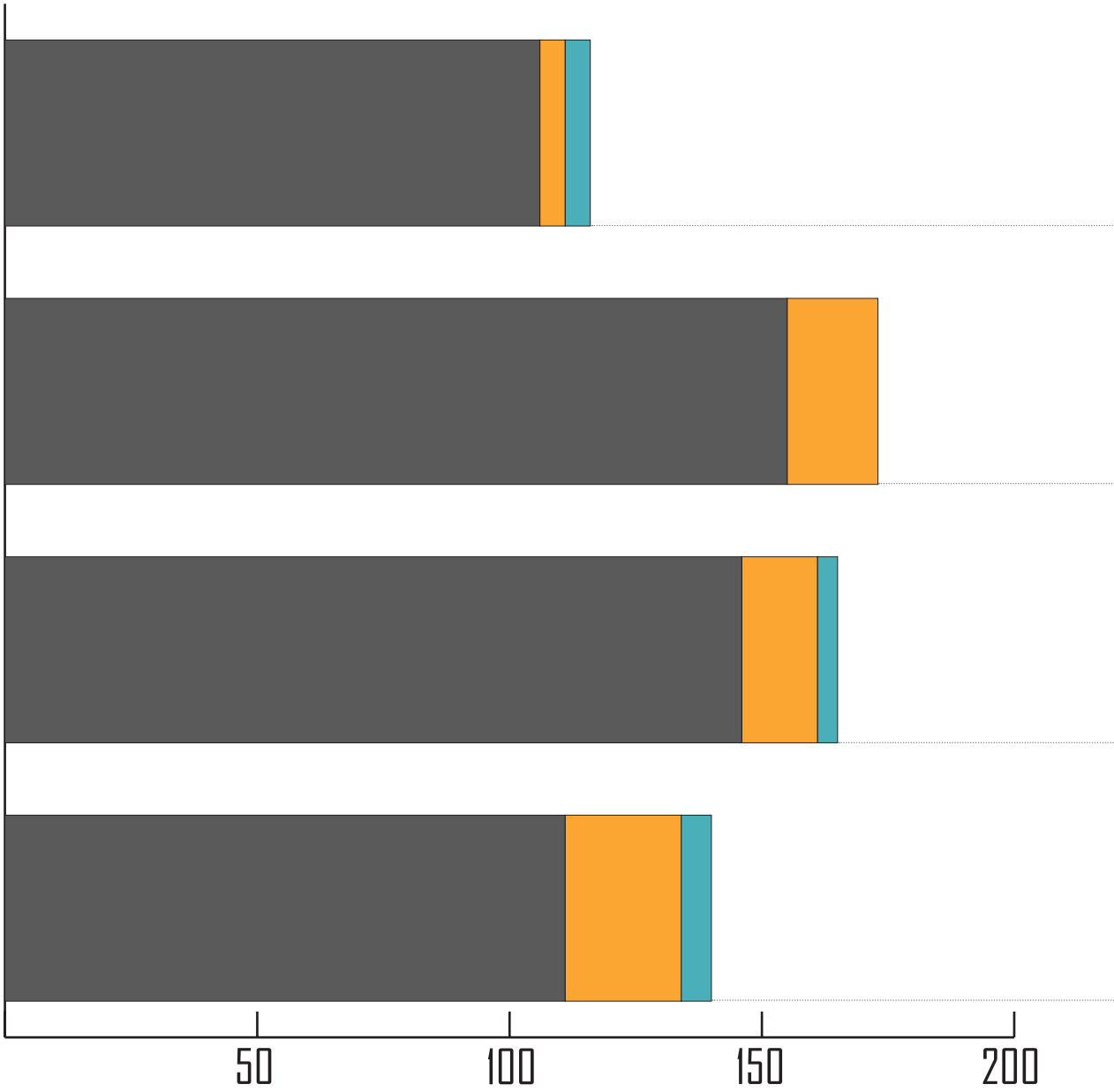
PARTICIPANTS

106 COUNTRIES
5 INTERNATIONAL ORGANISATIONS
5 INTERNATIONAL PRIVATE COMPANIES
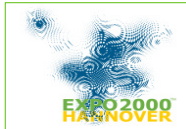
155 COUNTRIES
18 INTERNATIONAL ORGANISATIONS

146 COUNTRIES
15 INTERNATIONAL ORGANISATIONS
4 INTERNATIONAL PRIVATE COMPANIES

111 COUNTRIES
23 INTERNATIONAL ORGANISATIONS
6 INTERNATIONAL PRIVATE COMPANIES

COSTS / PROFITS

Axis labels: 400, 800, 1200, 1600
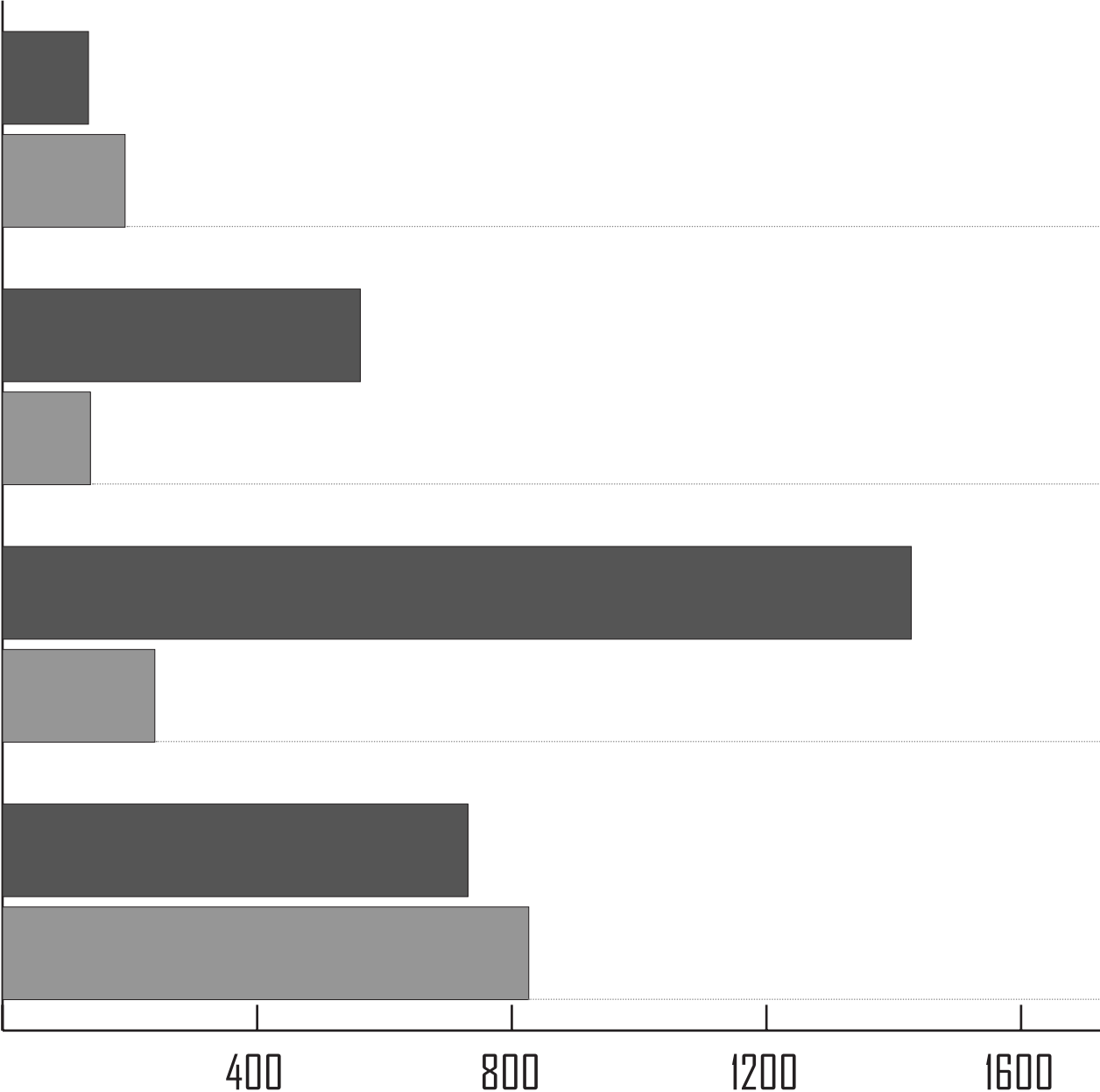
COSTS: € 135 million
PROFITS: € 192.5 million

COSTS: € 562 million
PROFITS: € 138 million

COSTS: € 1427.56 million
PROFITS: € 239.23 million

COSTS: € 731.08 million
PROFITS: € 826.63 million

MILLIONS €

BIBLIOGRAPHY

BOOKS AND WRITTEN SOURCES

Roberto Collovà, *Lisbona 1998 - Expo, Universale di Architettura - collana diretta da Bruno Zevi*, 1998, Testo & Immagine s.r.l.

Luiz Trigueiros, *Lisbon Expo '98 : architecture*, 1998, Lisboa : Blau

Riccardo Dell'Osso, *Expo da Londra 1851 a Shanghai 2010 verso Milano 2015*, 2008, Santarcangelo di Romagna, Maggioli Editore

Roberto Cherubini, *Cinque progetti sul futuro dell'expo : connessioni - onde del paesaggio - complessita e rinaturalizzazione - Expo Plaza, 1 novembre 2000/ore 12:00 (workshop Expo 2000)*, 2001, Roma, Artefatto

EXPO*DOPO*EXPO - *Lo sguardo di cinque fotografi sulle eredità urane e ambientali di cinque Expo in Europa*, Ordine e Fondazione dell'Ordine degli Architetti, Pianificatori, Paesaggisti e Conservatori della Provincia di Milano, catalogo mostra tenutasi presso la Triennale di Milano nel maggio 2009

Anna Jackson, *Expo : international expositions 1851-2010*, 2008, London, V&A Publishing

Hatje Cantz, *Architektur (Architecture) - Expo2000 Hannover*, 2000, Hannover, EXPO2000 HANNOVER Edition

EXPO2000 Hannover GmbH, *Der EXPO - Guide - Offizieller Führer durch die EXPO 2000*, 2000, Hannover, BERTELSMANN EVENT MEDIA

EXPO-PARK-HANNOVER, *EXPOGROUND HANNOVER*, magazine about the Expo grounds today, 2000, Hannover

Sociedad estatal para la exposicion universal Sevilla '92, *Expo '92 Siviglia : architettura e design.* - 1992, Milano, Electa

A.A.V.V. - BIE, *Guida ufficiale Expo 92*, 1992, Milano, Electa-Elemond arte

A.A.V.V. - BIE, *Arquitectura EXPO 2008 Zaragoza - proyecto urbano*, 2008, Zaragoza, Expoagua Zaragoza 2008 S.A. Actar

WEB SITES

www.bie-paris.org

www.expo92.es (official website of Expo 1992 in Seville)

www.parquedasnacoes.pt (official website of Expo 1998 in Lisbon)

www.expo2000.de (official website of Expo 2000 in Hannover)

www.expozaragoza2008.es (official website of Expo 2008 in Zaragoza)

www.expozaragozaempresarial.com

www.expo-park-hannover.de